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NATURE'S SECRETS:

OR,

The Admirable and Wonderful Hiſtory
Of the Generation of

METEORS

AND

Blazing-Stars.

Particularly deſcribing the Temperatures
and Qualities of the four Elements; the Heights,
Magnitudes, and Influences of the Fixt
and Wandring STARS.

Shewing the Efficient and Final Cauſes of Comets, Earthquakes, BLAZING-STARS, Deluges, Epidemical Diſeaſes, and Prodiges of precedent Times; their Preſages of the Weather: with Direction for obſerving of a Weather-Glaſs.

Rendred plain and uſeful both for Sea and Land, by the
Induſtry and Obſervation of *Tho. Wilsford*, Gent.

LONDON,
Printed for N. *Brooke*, at the Angel in *Cornhill*, 1665.

20068

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A DEDICATION TO

The Right Honourable, the Lady Stafford, *Siſter to the Lord* Henry Stafford *deceas'd, Lineally deſcended from the eminent and ancient Earles thereof, and ſole Heir ſurviving the moſt illuſtrious Dukes of* Buckingham.

Madam,

THe ſplendor of your renowned *Family*, and the influence of *Celeſtiall Graces* illuminating the moral vertues you inherit, attracts me and my *Meteors*, as the *Sun* does Exhalations and Atomes; although many have been obſerv'd more illuſtrious to vulgar eyes, and more ſtupendious to common capacities gaz'd upon by the gaping Multitude with terror and admiration; yet ſome of them now totally eclipſt, others prov'd but *Ignes fatui*, the greateſt and higheſt like enflamed *Comets*, elevated on the wings of *Ambition*, conſume themſelves with their own glory, diſcover'd by their *Horoſcopes* through the Perſpectives of *Reaſon*; Demonſtrated by the *Parallaxes* of their Spheres, and by *Experience* found that the moſt exalted are but Falling Stars, whoſe coruſcations ſhew their groſs extractions, ſomething ſublim'd from the *fæces* of the Earth; whereas I look upon your *Honour* like a benevolent *Planet* Culminant, which may be eclipſt for ſome time, and alſo ſet, yet will riſe again, recover its former luſtre, and diſſipate thoſe Meteors that mask the face of little Stars : and thus (*Serene Lady*) a ſmile from you (by vertue of your Rays) will calme the moſt rigid brow, clear the frowns and cloudy aſpects of malignant readers, convert the aſperſions of palli'd *Envy* into Pearls, and ſcatter the miſty Exhalations riſen from ſplenitick bodies, to obtenebrate the weaker inſpection of others : but if it be judg'd preſumption to require ſo honourable a Protection in defence of ſo mean a Peece, vouchſafe me leave to proſtrate this at your *Honours* Feet, whereby your ſhadow may prove as propitious, and tutelary, as the *Laurel* whoſe ſhade is held a *Sanctuary* againſt ſtorms of Thunder and Lightning.

I have compendiouſly render'd here (moſt auſpicious *Lady*) the prognoſtication of *Meteors*, with ſundry obſervations plaine and conſpicuous as in a Mirrour, in favour of your Sexe, to whom (I hope) 'twill be acceptable, reflecting on the providence of *Nature*, and in imitation of her dictates, providing beſt for thoſe who are in moſt danger to be damnified by the aſſaults and ſuddain incurſions of angry ſtorms; and this her motherly affection not only viſible in Senſitive Creatures, but in all Vegetables, vailing their bonnets to ſalute the *Sun*, while their bloſſoms receive his vivificating beams; and if too hot for their natures, their leaves fan the Air, or their Husks make *Umbrelloes* againſt the inflammations of his Rays, and at other times contract them like traverſe curtains, whereby to ſhelter their infant Buds and tender Blooms from being ſtorm'd, or injur'd by the exceſſe or fury of the weather: but the nobler *Creatures* endow'd with the uſe of *Reaſon* (as your *Honour* with an ample portion fortifi'd with knowledge) thoſe are refer'd to ſearch, and argue the cauſe, or by precurſing ſigns deriv'd from the effects, preſage the events, as the collections of Experience. Upon theſe animadverſions in order to *Natures* Inſtincts, I compos'd this treatiſe, your tender and beautiful *Sexe* tranſcending her pleaſant and odoriferous Flowers; and ſince the better ſort are often now expos'd to rude and boyſterous ſtorms, by the abortive production of a more bluſtering uncivil Age, the precepts of Gratitude obliged me to dedicate theſe Obſervations to your *Honour* (as the Nobleſt in my eye) that the World may witneſſe my ſincere and grateful intentions for ſheltring me; In teſtimony whereof it is ſign'd by

Your affectionate kinſman

and moſt devoted ſervant,

Thomas Willsford.

A
GENERAL PREFACE
TO
The Ingenious and Judicious ſpeculators of Nature, illuſtrating here the Antiquity of this Meteorological ſubject, in prognoſticating their effects.

Benevolent Reader,

I *Shall preſent you here with a ſmall compendium of a mighty ſubject, offer'd up to the glory of* God, *and intended for your benefit, in the deſcription of the* Heavens, *the* Heights, Magnitudes, Periods *and* Aſpects *of the fixt and wandring* Stars; *the natural qualities and greatneſs of the four* Elements; *the generation of* Meteors, *and* Prognoſtications *of the Weathers variable tranſmutations; with the alterations of* Senſitive *and* Vegetable Creatures, *in their diſpoſitions and inclinations; a ſubject, into which the Wiſe and* Learned *(of precedent Ages) have made ſerious and diligent inquiſitions, omitting Catalogues of* Philoſophers, *from* Ariſtotle *and his Diſciples (on the ſpeculative part) continued by ſucceſſion to theſe times; and for the practical obſervations of many I will record a few.*

Thales *(one of the* Athenian *Wiſe-men) a grand contemplator of* Nature, *and ſo judicious a proficient in this* Art, *that he ſaid, he could be rich when he would, by prognoſticating Weathers temper in ſucceeding years, from thence preſaging plenty, or ſcarcity of Fruits; after him, divers made obſervations of the* Stars *aſpects, and thoſe grave* Experience *ratified as in relation to particular Countries or regions; after a long tract of time, this knowledge was made more univerſal by being contracted into general Rules, and thoſe again much illuſtrated by the induſtry of* Ptolomæus *the* Alexandrian, *whoſe fame ſurvives his Funeral : Since his time very many have writ of this Subject, in a continual ſucceſſion, unto this preſent Age, yet never render'd till now in our vulgar tongue.*

And that I may pleaſe all Sexes and Ages, the Ignorant and Learned, diverſity of predictions are here inſerted, from the Heavens *to the* Elements, *from the lofty* Pine *to the humble* Shrub, *and little* Vegetables, *from* Birds *and* Beaſts *and* Fiſhes *in the deep, down to the* Minerals *in the* Earths *pregnant* *womb, beſides ocular Demonſtrations to preſerve you from the injury or aſſaults of the Weather: Yet ſome (perhaps) will bluſter, and make a noyſe (like Thunder without Lightning) becauſe dedicated to a* Woman; *ſhould I name her* Vertues *they would be calm'd, or charm'd by their own* Reaſons *to ſilence, but 'twill diſpleaſe her* Modeſty; *ſo I will only intimate, her* Favours *reflecting upon my mind (as the Sun upon a Cloud which he rais'd) repreſented this Impreſſion, having imprinted in my memory her* Nobleneſs *indelible, not convenient to be publiſh'd at this preſent time.*

As for the ſubject of this Treatiſe, it appertains to the Aſtronomer *in part, 'tis true; yet who underſtands the Characters and Aſpects of the* Signs *and* Planets *by this, will know them in any* Ephemeris, *or Annual* Kalender, *whereby you may judge of the future Weather: For our preſent purpoſe Mr.* William Lillies *is the beſt extant; As for apparitions in the* Airy Regions, *you have here the Obſervations upon them; and for the nature of* Vegetables *they are more eſſentially obſerv'd, and better known in general, then the influence of the* Stars, *or the nature of* Meteors *are diſcovered to learned* Men, *eſpecially all tender and redolent*

Flowers, *that embroyder the Earth, or perfume the Air; whoſe natural inſtincts, each* Floriſt *obſerves as Kalenders of the Weathers mutability: beſides theſe, here's* Birds *and* Beaſts, *that are domeſtick Creatures, or familiarly ſeen; which if they ſatisfie not the beholders, I have preſented them with a* Glaſſe, *not to ſee their features in, but to view the ſtate of the* Air, *whether Dropſical or Feaveriſh, Hot or Cold, and by a member ſequeſtred from the* Element, *confin'd within a tranſparent Glaſſe, where behold its contraction or rarefaction! and from thence you may viſibly preſage the approaching weather; the fourth and laſt Part is hiſtorical; ſo there is ſomething in every ones Sphere, or Element.*

The Tables of the Stars *natural qualities in their tempers ſeem oppugnant to themſelves; as* ♄ *cold and dry, with* ♃ *hot and moiſt, likewiſe in* pag. 82, line 28, *and* 29; *and ſuch like ſeeming contradictions in general, but not in particular reſpects: theſe are the obſervations of others, faithfully recollected and transfer'd to your judgements as Moderators, whereby I will not deceive you, if you be deceiv'd. The* Coſmical *riſing and ſetting of ſome* Stars *are mention'd here, when as to many Places, and whole Countries, thoſe* Aſteriſmes *can neither riſe nor ſet: In all ſuch* *caſes 'tis to be underſtood (if viſible) when neer the* Horizon *of that place, or direct North, the* Sun *aſcending or deſcending that Hemiſphere at the ſame time. As for terms, Latine words and quotations not explain'd, they are known unto the* Lady, *for whom this is chiefly intended; and if they do eclipſe or offuſcate the ſubject (as in relation to others) the next Impreſſion ſhall delucide them: And as for thoſe who only know how to find fault, I can with more facility remit, then ſuch as they can cenſure; So all ſuch malignant ſpirits I leave to themſelves, and reconvert my diſcourſe from them, to the Ingenious (as the* Heliotrope *from its ſhade to court the* Sun) *and if they are ſatisfied, I am pleas'd by ſubſcribing*

Your friend and coadjutor,

THOMAS WILLSFORD.

To his honoured Uncle Mr. *Thomas Willsford* upon his Book of Meteors.

HEav'n is by earth epitomiz'd!
The greater world, by th' leſſe Compriſd!
The ſacred Harmony o'th' ſpheres
Made audible to mortal ears!
Nature's Anatomy diſplayd!
The univerſal frame ſurvayd!
The Elements complexions ſhown!
And every Star's Dominion!
The Weathers watr' in glaſſes caſt,
Speaks how her fits, may change, or laſt!
Whence bearded Comets have their births!
And ſtrong Convulſions ſhake the Earth!
Whence all portentous ſymptomes riſe!
Bad Omens, and ſad prodigies!
Theſe are thy tracks! pervious to none,
But to thy better thoughts alone!
Whoſe myſtique Cauſes do'ſt explore;
Seeing implum'd effects in ſtore!
Who Can'ſt the Cabala of Fate,
And energy of Planets ſtate!
While ſtupid we on Terrene Regions move:
But Looking up ſee Stars and Thee above!

Edward Boteler.

AN
INTRODUCTION
TO THE
WORLDS EPITOMY,
AND THE
Generation of Meteors.

ACcording to my Talent received from the ſole *Creator* of the *Univerſe*, whoſe *Fiat* alone made this great and ſtupendious *Machine* of the *World*, for whoſe excellency *Man* cannot find an attribute, but *Supereminent* in all beginnings, *Eternal*, *Immenſe*, *Omnipotent*, *&c.* which we cannot comprehend: Who in the beginning created *Heaven* and *Earth*, *Gen.* 1. *cap.* 1. And by his omnipotent *Word* alone, made on the firſt *Day Light*, which *He* divided from darkneſſe; whoſe *Divine* aſſiſtance I now implore, to illuminate my underſtanding, and to diſſipate the clouds of Error involving humane Learning, deviated in diverſity of Tracts, in which obtenebrated ways, we grope for what we ſeek in the bewildred cogitations of others, whereof ſome do think they ſee ſo well as *Argus*, when they are as blind as Moles, *Phantaſmes* undermining their wilful benighted *judgements*.

Others there be whoſe ſordid minds are buried deep in *Earth*, or ſo propenſe on vanities, that they reflect not upon *Natures* dayly works, much leſſe on the *Sacred Deity*, from whence ſhe was ordained herſelf; ſhould but any ſtupid man (that hath a glimmering light in the uſe of *Reaſon*) behold the *Heavens*, he muſt needs read there an immenſe *Creator*, if his Reaſon enters into judgement for to examine the cauſe, or contemplate on the effects, obſerve the illuminated *Orbs*, how by an orderly courſe and ſucceſſion they riſe and ſet; diſtinguiſhing *Days* from *Nights*, and *Seaſons* of the Year; contracting their Lights, or diſtributing their Rays impartially to the *Peſant* as the *Prince*; they cannot but confeſſe the Providence, Goodneſſe and Bounty of an Infinite and univerſal *Opificer*: Which moved *Ovid*, though a Heathen, wavering like a weather-cock, turn'd with Air of poetical fictions, yet from them converts himſelf to point at the original Author, *Metam.lib.*1. deſcribing of the *Chaos*.

——————— Quia corpore in uno
Frigida pugnabant calidis, humentia ſiccis,
Mollia cum duris, ſine pondere habentia pondus;
Hanc Deus & melior litem Natura diremit.

And a little after,
Ille Opifex rerum mundi melioris origo.

Declining here the *Poets* and *Philoſophers* authority let any rational man but contemplate of the leaſt *vegetable* or ſenſitive *creature*, a time there was it had no being, it increaſes to maturity and perfection, at a period declines again, returning unto *Earth*, from whence extracted, according to the courſe and conception of *Nature*; which evidently demonſtrates that She and the World had an original, as by their Fruits and off-ſpring, (the ſubjects of mortality) and conſequently muſt have an end: *Eccleſ.cap.*3. conſider then the omnipotency of an *Eternal Creator*, by whoſe ſacred *Word* alone 'twas made, by whoſe *Providence* it continues, and by whoſe *Power* it ſhall periſh, all things declaring the *Almighty Deity*, and ſo apparently, that there are not any but muſt ſee it, except wilfully blinded in their underſtandings; and thus writeth the *Apoſtle* of the Gentiles, S. *Paul*, inſpired by the *holy Ghoſt*, *ad Roma. cap.*1.*ver.*20. *Inviſibilia enim Dei, à creatione Mundi, per ea quæ facta ſunt intellecta conſpiciuntur; ſempiterna quoque ejus virtus & Divinitas, ita ut ſint inexcuſabiles.*

Now to return from whence I came, and look back to the *Creation*; on the ſecond *Day*, *God* made the *Firmament* as the bounds unto this great work; for the *Empyreal-Heaven* or his bleſſed *Seat*, is an *Orb* unlimited, whoſe Centre is everywhere, and the Circumference nowhere; and ſince that *Geneſis* doth mention the *Heavens* as the nobler part of this admired Architecture, I deſire here to begin, where I hope for to conclude, having finiſhed my Pilgrimage through this tranſitory Deſart; and in what I ſhall err, may it be aſcrib'd to my weakneſſe and not my will; and that we may always remember our imbecillities, and reflect on the Glory and Majeſty of the ſole eternal God, Behold the Regal *Pſalmiſt* 75. *ver.* 1. *Confitebimur tibi Deus, confitebimur : & invocabimus nomen tuum, narrabimus Mirabilia tua.*

The ſubject of my intended diſcourſe is *Meteors*, originally deriv'd from the Creation of the 4 *Elements*, their conceptions extracted from thence by *Nature*, with a continual ſucceſſion from Corruptions to Generations, and from hence *Reaſon* aſſiſted with *Experience*, diſcuſſes their Qualities, and from their material cauſe prognoſticates their effects ; the *Stars* are generally conceiv'd the efficient cauſe in elevating and digeſting the matter which *Nature* imploys to what 'tis apteſt for : thus the wandring *Planets* and fixed *Conſtellations*, over-looks their tranſmutations, and by their mutual aſpects do generate the *Meteors* from whence *Man* does prognoſticate the Weather, either at the preſent, or by calculation of their places, for any time in future ; yet the nature of theſe *Stars* being known but by the effects, depending much upon Experience, on Demonſtration little ; this preſciential knowledge is often ſubjected unto errors, beſides the courſe is more uncertain, by reaſon ſo few do concur, and not an Age free from extravagant opinions of *Philoſophers* and *Aſtronomers*, ſtarted up in oppoſition to what hath been maintain'd and generally receiv'd before : the World's inviron'd in obſcurity for the pride of *Knowledge*, which tranſgreſſion made humane *Sciences* conjectural under the tuition of *Experience* ; yet ſince we are allowed to argue and diſpute upon it, concluſions may be deduced and made apt for humane uſe, and *Nature* beheld through the *Meteoroſcopes* of *Reaſon* , although with miſts before our eyes (the *Scouts* to our *underſtandings*) yet ſome are ſharper-ſighted than others, and many think they diſcover more than they doe, and multitudes magnifie and multiply things greater then they are, or more than is true ; ſo I will record here a few, ſuppoſed both Wiſe and Learned men and ſo proceed.

Empedocles the *Philoſopher* of *Sicilia*,a man famous for wit, and endow'd with a profound talent of humane learning,imploying all the faculties of his mind to diſcover the ſecrets of *Nature*, and the ſubſtance of the Celeſtial orbes (in which the *Elements* are involv'd) he maintain'd to conſiſt of *Water* ; of this opinion he had many diſciples, which flouriſhed until buried with the Author's, and in this later Age his *paradoxes* are reviv'd again, unto which *Galilæus* doth much incline: others conceive them to be form'd out of a refined *Element* of *Air*, and the *Stars* of *Fire* : many urges that the arched vaults of Heaven are compos'd out of *Natures Quinteſſence*, as it were a ſublim'd ſubſtance refin'd from the 4 *Elements*, yet differing eſſentially in their Qualities, as by being neither Hot nor Cold, Drie nor Moiſt, Ponderous nor Light ; to be brief, a body which they fancie, but underſtand it not : *Ariſtotle* conceiveth the *Stars* to be a thicker part of their *Spheres* in which they are infixt, not differing in matter nor *Species* any more, than knots in a piece of timber, and theſe condenſed *Orbes* apt to receive light, being void of luſtre in themſelves (like the common people of the *Skies*) but as they are illuminated by the influence of the *Sun*, nor have they heat but by reflection, nor colour, but by participation of divers *phænomenons*, or appearances of ſundrie colours; but all this cannot be admitted, ſince ſage *Experience* (in peculiar motions) by demonſtration overthrows their Arguments, and *Reaſon* denies their concluſions.

In the *Firmament* are plac'd all the fixed *Stars*, accounted in number but 1143, and of theſe there are 14 rarely viſible, beſides multitudes (without peradventure) that never were or ſhall be ſeen to Mortals, ſince by *Perſpectives* ſome have been diſcovered in this later age to attend particular *Planets*, never obſerv'd before, and by ſeveral mediums undoubtedly have influences on ſublunary bodies; yet by what means 'tis in diſpute: but leaſt my cogitations ſhould wander with thoſe *Stars*, it ſhall aſcend to the fixed, diſtinguiſhed by their Magnitudes, whoſe differences are 6. as by theſe *paradigmas* following.

1 The number of *Stars* of the firſt Magnitude are accounted 15. *viz.* as the *Scorpions* and *Lions* heart, &c.

2 Thoſe of the ſecond Magnitude are reckoned 45. *viz.* the north Horne of *Taurus* and the Foot of *Gemini*, &c.

3 Of the third Magnitude, there are numbred 208 *Stars*, as the Breaſt and Knees of *Caſſiopeia*.

4 The fourth Magnitude doth liſt 474. as the Northern and Southern *Aſſe*, &c.

5 The fifth Magnitude or difference, doth number 217, as the leaſt in the *Pleiades* and the *Ram*.

6 Of the ſixth and laſt Magnitude, 49 *Stars*, as thoſe in the mouth and on the back of *Capricornus*, &c.

There are accounted beſides all theſe 14 little cloudy, or obſcured *Stars* that ſeldome do appear, *v.z. Præſepe* in the breaſt of *Cancer*, the ſum of theſe is 1022. to which if you add 121 *Stars* of ſeveral magnitudes diſcovered by the *Portugalls*, in their voyages to the *Eaſt-Indies*, the totall will be 1143 in ſeveral *Conſtellations* according to *Aſtronomers* obſervations; but I believe not true, ſince the Sacred *Records* puts to man this quæry, Who can number the *Stars*? but theſe are more than we know, or ſhall uſe in our obſervations here, although there were none created unneceſſary, nor can there be leſs without an error.

The fixed *Stars* are ſo called for never changing their poſitions or latitudes, and their longitudes not one minuit in a year, as all the *Planets* daily doe: to diſtinguiſh the fixed, and avoid confuſion, they are contracted into ſeveral *Conſtellations* or *Aſteriſmes*, the eaſier to be remembred, the ſooner to be found, and the better for obſervation: theſe Celeſtial Configurations are now numbred 58. repreſenting the formes and names of Men, Beaſts, Birds, Fiſhes, &c. deriving their Pedegrees from *Aſtronomers* Poetical fictions, or their natural effects; as when the *Sun* enters the *Sign* of *Aquarius*, theſe northern Countries do expect much rain or ſnow: *Canis major* or *Sirius* at his *Heliacal* occultation or ſetting inflames the *Air*, and makes Dogs apt to run mad, as *Pliny* teſtifies, *lib.* 1. *cap.* 40. the *Egyptians* call'd their river *Nilus Siris*, from the Dog-*ſtar*, obſerving their inundations to happen conſtantly every year, when this *Star* aſcended their *Horizon* with the *Sun*, and thoſe floods over-running their valleys, untill his *Haliacal* riſing or apparition, ſummon'd thoſe extravagant,but fertile waves to retreat into their confined channels.

Hypotheſes of Aſtronomers, concerning the heights and magnitudes of the fixed Stars and alſo the Planets in their mean motions, with the diſtance of the four Elements from the Earth's centre.

THe F*irmament* or 8. *Sphere* (in which the fixed *Stars* are placed) is affirm'd by *Aſtronomers* to be in diſtance from the Worlds *centre*, the *Earths* diameter 9327 times; from the Terreſtial Globes ſuperficies 18653 ſemi-diameters; the diſtance from us in miles 65285500; the leaſt *Star* in this Sphere is conceived greater than the Globe compos'd of *Earth* and *Water*, and that all the *Stars* of the firſt magnitude are 100. times as great in relation to their Cubes.

Under the ſtarry Firmament there are imagined 7. peculiar Spheres involv'd within one another, on theſe the ancient *Aſtronomers* did fancy little circles (called *Epicycles*) whoſe centres were in the ſuperficies of thoſe Orbs, in whoſe circumferences they plac'd the centre of each *Planet* according to its proper Sphere, thereby to ſolve the irregular motion of each wandring *Star*, in their various courſes, and excentrick motions; that point which is moſt remote from the centre of the *Earth* is called *Apogæon*,the loweſt *Perigæon*, the difference between them is termed the mean motion, the *Planet* being then on the ſuperficies of his own *Sphere*.

Saturn the higheſt of all the *Planets*, in his mean motion is in diſtance from the ſuperficies of the *Earrh* 10358 $\frac{1}{10}$ Semidiameters in proportion to it as 31 to 11. being greater than the Terreſtrial Globe 22 $\frac{3}{10}$ according to cubical numeration, and is in diſtance above us in our Hemiſphere 36153318 Miles; this later age (by *Teleſcopes*) hath diſcovered 2 *Stars* that attend him, interpoſing themſelves ſometimes betwixt him and us.

Jupiter in his mean motion is in diſtance from the *Earth* 3917$\frac{4}{10}$ ſemi-diametrs, and is in proportion to it as 12 to 5. and greater than the Terreſtrial Globe, according to the Cubes made of their diameters 13$\frac{8}{10}$ and in diſtance from us 13711090; he hath 4 *Stars* diſcovered, that make a progreſs with him through the 12 *Signes*, but keep no equal diſtance, and do often interpoſe themſelves and us.

Mars in his mean motion, is above the Earth 1713$\frac{2}{10}$ ſemi-diameters, and is in diſtance from the ſuperficies of the terreſtrial Globe 5996200 Miles, and according to *Tycho Brahe*, the Cube made of his Diameter, is leſs then that of the Earth 13 times and a little more.

Sol in his *Apogæon* is from the ſuperficies of the Earth 1169 ſemi-diameters, in his *Perigæon* 1089, and conſequently in his mean motion 1129, and according to his Cube 139 times greater then the cube made of the terreſtrial Globes diameter, and is in diſtance from the Earths ſuperficies 3951500 Miles.

Venus is in proportion unto the terreſtrial Globe, as 6 to 11. and ſhe is leſſer then the globe of Earth 6 $_{0}\frac{1}{2}$ times, and in her mean motion is in diſtance from thence, ſo much as the *Sun* is or very neer.

Mercury is held leſs then the terreſtrial *Globe* 19 times very neer, and in his mean motion, hath the ſame diſtance allowed him almoſt as the *Sun* hath in his mean motion.

Luna in her mean motion, is in diſtance from the Earth's ſuperficies $58\frac{9}{10}$ ſemi-diameters, in Miles 206050, and the cube made of the terreſtrial *Globes* diameter, will contain that made of the *Moon*'s $42\frac{8}{10}$ the proportion being as 2 is unto 7 and ſo much greater is the *Globe* of Earth then that of the *Moon*.

Under the *Moon*'s Sphere is the Element of *Fire* conceived for to be in thickneſs 154050 Miles, whoſe concave or neereſt diſtance from the ſuperficies of the Earth and Water is conjectured 52000 Miles, and from the center 55500 Miles.

The upper *Region* of the *Air* (being next unto the Element of *Fire*) is ſuppos'd to contain in thickneſs 51994 Miles, and the concave of it in diſtance from the ſuperficies of the Earth 6 Miles, the Middle *Region* 4 Miles, and the loweſt two Miles, which is the diſtance from the Earth to the higheſt watery clouds, and this is the *Region* of *Air* in which we mortals draw our vital breath in.

The two loweſt *Elements* do make one *Globe* conſiſting of *Earth* and *Water*, whoſe Diameter is 7000 Miles, and the whole circumference 22000 Miles, and according to this proportion $61\frac{1}{9}$ miles upon this *Globe* will anſwer unto one degree in the Heavens; but expect no exactneſs in the dimenſions.

Here I could have ſhown you a great aſſembly of various opinions, but not aſſiſted with any convincing Reaſons, or grounded upon undeniable demonſtrations; as in the magnitudes and diſtances of the Stars, moſt ſuppoſing them for to be in a further diſtance from the Earth, and of greater magnitudes, in which proportions I have followed *Tycho Brahe*, but not altogether in their heights. Some deny theſe ſeveral Spheres, and the motions called *Acceſſus*, and *Receſſus*; others will have them moved by Angelical powers; and this opinion is aſſiſted by the great Doctor and light of the Catholike *Church* St. *Auguſtine*, *lib.* 83. *p.* 74. ſaying, *Every viſible thing in this World, is under the charge of an Angelical power*; And ſo writeth St. *Jerome cap.* 28. *On Ezech.* That there is an *Element* of *Fire* ſome reject, others do affirm it; but deny that either the *Fire* or the *Air* have any motion with the Heavens from Eaſt to Weſt. *Ariſtotle* affirms the *Air* to be naturally of a hot quality, the *Stoiks* and *Cardanus* do think it cold; *Turnebius* neither, but apt for either heat or cold: The common received opinion is, that the upper *Region* of the *Air* is naturally hot and dry; the ſecond cold and moiſt; the loweſt *Region* temperate, according unto the place and Seaſon of the year; but generally the whole Element of *Air* is thought to be hot and moiſt.

Now as for the two lower *Elements*, *Earth* and *Water*, as united together they do make one *Globe*, and this aſſertion generally ratified, and unanimouſly conſented unto, by the ableſt men in all Ages; yet ſomething in approbation of this ſhall be ſaid hereafter: But as for the greatneſs of this *Globe* it is doubted of by many, although not with ſuch diſſonant, and diverſity of opinions, as for the magnitude and height of the Spheres, and the other two Elements: for ſome do ſeem to prove by Eclypſes of the *Sun*, and *Moon*, and voyages at *Sea*, what part or how many leagues or miles upon this *Globe* will anſwer unto one degree of the Heavens; the common opinion is 20 leagues or 60 miles, and by this account the terreſtrial *Globe* is in compaſs 21600 miles. *Ptolemæus* accounts 500 Stadiums for 1 degree, that is 22500 miles, if the *Stadium* in *Egypt* did not exceed that in *Italy*; others will have it 66 miles allowed for one degree, and in compaſs then 23760 miles: but I have in this allowed for the whole circumference of the Earth 22000 miles: Thus numerous are the opinions of learned *Philoſophers*, *Geometritians*, *Aſtronomers*, *Geographers*, *Coſmographers* and *Navigators*, and their ways ſo ambiguous, ſeldome agreeing in any thing, often croſſing one another; that if there be a truth in them, it is hard for to diſcover which it is, and being found difficult to follow, ; but whether this admired and ſtupendious machine of the *World*, be greater or leſſer 'tis not for me to argue, And thus I will conclude, *Pſal.* 135. *ver.* 6. *Omnia quæcunque voluit Dominus fecit in Cælo & in Terra, in mari, & in omnibus abyſſis.*

The

The 7 Planets, or wandring Stars, with their Characters, colour, motion, period and courſes.

F*Irſt* under the Firmament or Starry Heaven, is plac'd the planet *Saturn* ♄ who is the higheſt of them; his colour is pale, his courſe is finiſhed through the 12 Signes, in 29 years, 5 moneths, 2 weeks, 1 day and 8 hours.

The next Orbe to this is *Jupiter* ♃ a fair and bright planet he paſſeth through the 12 Signs of the Zodiack in a 11 years, 11 moneths, 5 days and 17 hours, or very neer.

Mars ♂ appeareth in his proper Sphere, of a red or fiery colour, marching through the 12 Signs in 1 year 11 moneths, 1 week, 6 days and 22 hours or thereabouts.

The *Sun* ☉ is next being placed in the middle of the planets, the better to diſtribute his light unto the reſt, they being illuminated by him, their bright and glorious Prince, and is called *Sol quaſi ſolus:* for this Planet is as Monarch of the Skies, all the Stars receiving their luſtre from Him: his progreſs through the Zodiack is finiſhed in a year, conſiſting of 365 days, 5 hours, 49 minuits, and 16 ſeconds almoſt; for the odd hours and minuits, is allowed a day every fourth year.

Venus ♁ is a very bright and clear ſhining Planet, ſhe finiſheth her courſe in a year: ſometimes

times riſing before the ☉ ſhe is called the morning Star, and at other times will follow the ☉, and then is called the evening Stars ſhe ſeldome goeth 45 degrees from the ☉ and can never exceed two whole Signs or 60 degrees.

Mercury ☿ poſting to and fro in the ſixth Sphere; but cannot exceed 30 degrees, or one whole Sign in diſtance at any time from the ☉ and ſo is ſeldome viſible, being obſcured by the *Sun* beams, and when ſeen, he is not bright, and finiſheth his courſe in ſomething leſſe then the ſpace of a year.

The *Moon* ☽ is the loweſt of all the Planets, and conſequently ſwifteſt in her motion; She paſſeth through the 12 Signs of the Zodiack in 27 days, 7 hours, 43 minuits, and 5 ſeconds, but from one new Moon unto another it is 29 days and odd hours, by reaſon of the ☉ proper motion from the Weſt Eaſtward, in thoſe 27 days.

The mutual Aſpects, or poſitions of the 7 Planets.

THe *Planets* are called wandring Stars, both for their various courſes, and not keeping any certain diſtance one from another, each of them moving in a proper & peculiar Sphere; the *Sun* only keeping under the Ecliptick line; but all the other 6 (according to their motions) changing continually their latitudes; being ſometimes Southward of the Ecliptick as was ſaid before, which mutability of their courſes, you may plainly behold by the Moon, who paſſes by all other Planets in leſs then 30 days; and ſo do all the other 5 Planets (according to their proper motions) mutually aſpect one another, and are conceived by Aſtronomers to have the more force (in their influences upon all ſublunary things) according to their poſitions; and the powerful effects of their natures, are ſuppoſed to be hindred or further'd by the interpoſition of another, which in things of this nature ought to be judiciouſly and circumſpectly conſidered, weighing with reaſon the poſition of the Planets, their natures, the Seaſons of the year, with the temperature of the Signs they are in, and the intervening Aſpects of the other *Stars*; of which Aſpects there be many obſerved by Aſtronomers; but thoſe which may concern this Treatiſe are theſe following.

Conjunction of any two Planets, is when they have one Longitude, both of them being under one Sign and degree of the Zodiack.

Sextile aſpect, is when any two Planets are in diſtance one from another (in reſpect of their Longitudes) $\frac{1}{6}$ part of the 12 Signs, that is two whole Signs or 60 degrees.

Quartile aſpect, is when the difference of two Planets Longitudes ſhall be $\frac{1}{4}$ part of the Zodiack; that is 3 Signes, being a quadrant or 90 degrees.

Trine, is the aſpect of any two Planets, that differ in Longitude one from another $\frac{1}{3}$ part of the Zodiack, that is 4 whole Signs or 120 degrees.

Oppoſition, is the aſpect of two Planets directly oppoſite, differing in Longitude 6 of the 12 Signs that is 180 degrees, and for brevity are charactered thus, according to their Aſpects.

A

A Table of the 7 Planets aſpects.

The Characters	☌	Conjunction	*Degrees of the Zodiack.*	00
	⚹	Sextile		60
	□	Quartile		90
	△	Trine		120
	☍	Oppoſition		180

The natures and qualities of the four Elements.

AN *Element*, is a beginning; out of which all bodies are compos'd, mixed with ſome part, of all the four which are theſe, *viz.* (1) *Fire* (2) *Air* (3) *Water* and (4) *Earth*; theſe four do fill up the whole Orbe, from the center of the Heavens to the *Moons* Sphere, whereby a *vacuum* or an emptineſs is avoided, which *Nature* doth abhor, and ſo hath curiouſly made them, as to be the bounds of the connex ſuperficies of one another, and conſequently to the concaves of their Spheres, and are deſcribed in order thus.

Fire.

Under the *Moon's* Sphere is plac'd the Element of *Fire*, void of all weight and moſt remote from the center of gravity, this Element is of nature extremely hot and dry.

Air.

Air.

Next unto the *Fire* is placed the Element of *Air*: which is alſo light, and is by nature hot and moiſt.

Earth and *Water.*

The other two (that is the *Water* and the *Earth*) as joyned and commixt together do make one *Globe*; for the *Water* is heavy, and by nature cold and moiſt; the E*arth* extremely cold and dry, but heavier then the *Water*; yet both theſe Elements preſſing to the center of the Spheres.

To prove the Earth's roundneſſe.

NAture, in all her admirable works, does aim at that which is moſt convenient, and attains unto the greateſt perfection, which is a ſpherical figure, being moſt capacious, and uniform of all others, one part counterpoſing the other: thus *Nature* hath made the center of the Heavens, the ſeat of *Gravity*, to which all heavy things muſt naturally tend unto; and ſo conſequently if it were of any form but round, the fluxible waters would be divorced from the Earth, differting it, to run unto the center. But ſome will object, that it is not round, by reaſon of ſome high exalted hills, ſpacious plains, and deep depreſſed vallies, and do conceive theſe a ſufficient demonſtration; but this Argument will be of no force, if you conſider the greatneſs of the terreſtrial *Globe*; For

Mount *Pelion*, was obſerved by *Dicæarchus*, whoſe perpendicular height was found to be but 12 Stadiums, that is, but an Italian mile and a half, and this the higheſt hill that was then known; and ſo writeth *Pliny*, *lib.* 1. *cap.*65. but in the ſame Chapter he falls into a great abſurdity, conceiving the Alpes to be 50 miles high: *Eratoſthenes* (a famous Geometrician) found the perpendicular of mount *Atlas* not to exceed 10 Stadiums, a ſmall proportion, in reſpect of the Globes rotundity.

And that the ſuperficies of the Water is alſo round it doth evidently appear by every little bubble, or drop of water falling from any place, or lying upon ſome duſt, it will immediately contract into a ſpherical or round form, whereby to preſerve it ſelf from drought; this naturally and voluntarily doing ſo, argues the roundneſs and form of the whole Element, whoſe parts they are; the ☽ eclipſt demonſtrates the *Earth's* rotundity; and let this ſuffice, as not requiſite in this Treatiſe, conducing to our purpoſe.

The concord and diſagreement of the four Elements.

THis *Globe* compoſed of *Earth* and *Water*, is ſuſpended in the center of the Heavens equidiſtant on every ſide, counterpoiſed with its own weight, circumvolved with the Element of *Air*, and that within the *Fire*; theſe 4 Elements have naturally a peculiar quality in themſelves; participating with ſome, and contrary to others, as the *Fire* is hot, the *Air* moiſt, the *Water* cold, and the *Earth* dry: in this, the *Fire* and *Water* be naturally

rally oppoſite, as heat and cold; the *Air* and *Earth* be in oppoſition, as wet and drought; theſe 4 Elements do alſo participate of one anothers qualities; as thus, the *Fire* is of nature hot and dry: the *Air* hot and moiſt: the *Water* cold and moiſt: the *Earth* cold and dry: So the *Air* agrees with the *Fire* in reſpect of heat, and with the *Water* in reſpect of moiſture. The other *medium* is, the Water in combination with the Air in moiſture, and in coldneſs with the Earth: the two extreams, as Earth with Water in reſpect of coldneſs, and agreeing with the *Fire* in dryneſs.

By the commixtion of theſe 4 Elements, all bodies are ingendred, and by their mutual affinities do ſubſiſt: and if any one predominates, or be defective, it turns the other 3 into diſcord; and if not in time united, it ſubverts the frame, and deſtroys for want of concord, what it ſhould preſerve in peace; for if the *Fire* prevails, it burns and turns to Feavers; and if defective, the heat of the *Air* being equally oppoſed with the cold of the *Water*, moiſture in them both predominates, equalled with the drought of the *Earth*; So that the cold then onely rules with which nothing can live.

The nature and temperature of the 4 Seaſons.

THe 4 *Seaſons* of the year are compared to the four Ages in every Man; and his complexion or conſtitution unto the four Elements: and firſt the *Spring* is compared to *Infancy*, being Airy, hot and moiſt. 2. *Summer* to youth; as being Fiery, hot and dry, grown to full perfection of ſtrength and vigour of body, every part and member ripe. 3. *Autumne* is likened to elder *Age*, the body and ſtrength in Man declining, being Watery, cold and moiſt, his beauty withering. 4. *Winter*, reſembling old and decrepit *Age*, being cold and dry.

But ſome do ſuppoſe the 4 *Seaſons* of the year to be in oppoſition one unto another; for what one *Seaſon* does produce, the contrary will deſtroy. And ſo they conceive, as the *Spring* is hot and moiſt, that *Autumne* is cold and dry: and as the *Summer* is naturally hot and dry; ſo *Winter* is oppoſite unto it, being cold and moiſt; But theſe *Seaſons* vary as the Climates doe.

The Complexions in Man are theſe.

1 *Choler*: like *Fire*, hot and dry.
2 *Sanguine*: *Air*, hot and moiſt.
3 *Phlegme*: *Water*, cold and moiſt.
4 *Melancholy*: *Earth*, cold and dry.

THus one does qualifie and allay the violence of the other; but yet you muſt conceive they are not equally commixt in every Man, Beaſt, or vegetable Creature, but all differing, and every member or part participating much more of one then of another, as the vital Spirit of *Fire*, the Fleſh of the *Air*, the Humidity of the *Water*, and the Bones in more affinity with the *Earth*: yet theſe compoſitions not alike infuſed, as you may ſee in the diverſity of Spirits and conditions of Men: by the agility of ſome Beaſts, and the ſlowneſſe of ſome others; the mildneſſe of one creature, and the fury of another; as the ſervile Aſſe, dull and ſlow, Horſes valiant and nimble, Lions indomitable, always raging as with a perpetual feaver, inflamed with choler; And ſo it is in all other Creatures, differing in their temperatures, both in their ſeveral kinds and ſpecies; and the like we ſee in Vegetables and Minerals in their compoſitions, yet participating in all four of the Elements, but in ſome of them more then in others.

As in Plants, the roots are moſt Earthly, their leaves in affinity with the Water, their Bloſſoms do participate of the Air, and their ſeeds of the Fire; for without heat, nothing can be produc'd; all Stones do generally partake moſt of the Earth: yet there be exceptions, as Flint-ſtones and Thunderbolts, are of a fiery quality: Cryſtal and Pearls of a Watry: and in others the Air and Water moſt predominates, as the Pumice-ſtone, made of the froth of the *Sea*, and flotes upon it, being exceedingly light; which argues it participates but little of Earth, and leſſe of Fire: from whence the old Adagie is derived, *To ſtrike fire out of a Pumice-ſtone*, is to expect an impoſſibility in *Nature.* But this diſcourſe here is not in ſeaſon, and ſo let us return.

The 4 Seaſons.

EVery one of the four *Seaſons* is conceived to be qualified with the Signs as they are commixt with their ſeveral temperatures, called the ~~tripli~~-city, three Signs being in every Seaſon, as we have

ſaid

ſaid already; but for your more eaſe, I will place it here again, but not intending to induce or perſwade any for to believe that, which I do not confidently credit my ſelf, as that their natural temperatures are known: yet I doubt not, but that the Stars, by their aſpects and influences, are cauſes of diſtemperatures, and alter the Air and all ſublunary bodies; Yet by what means, it is not certainly demonſtrated unto Reaſon, being but extracted from bare effects where doubtful Experience is only Miſtris. For if it were a truth, that the nature and temperature of them were diſcovered to man, we could not egregiouſly err ſo often as we doe; beſides the aſpects being general, the effects would be ſo too, the Climate conſidered; but this is quite otherwiſe, when the weather will alter in a little ſpace, or few miles, and there may be at one time (in four neer adjacent places) Rain, Snow, Hail, and fair weather: yet to ſatisfie ſome (Experience having thus delivered it) I will neither approve, nor quite reject it, but leave it indifferent to every ones judgement, as they pleaſe to peruſe, or omit it; And here I will ſubject to your view, the Signs, Temperatures, Complexions, and Natures of the four *Seaſons* obſerved by many,

The

The ſympathy of the twelve Signs with the four Elements.

♈	Fiery	Hot and dry	Cholerick
♉	Earthly	Cold and dry	Melancholy
♊	Aerial	Hot and moiſt	Sanguine.
♋	Watery	Cold and moiſt	Phlegmatick
♌	Fiery	Hot and dry	Cholerick
♍	Earthly	Cold and dry	Melancholy
♎	Aeriall	Hot and moiſt	Sanguine
♏	Watry	Cold and moiſt	Phlegmatick
♐	Fiery	Hot and dry	Cholerick
♑	Earthly	Cold and dry	Melancholy
♒	Aeriall	Hot and moiſt	Sanguine
♓	Watry	Cold and moiſt	Phlegmatick.

The nature and qualities of the ſeven Planets in union with the four Elements.

♄	Earthly	Cold and dry	Melancholy
♃	Airy	Hot and moiſt	Sanguine
♂ & ☉	Fiery	Hot and dry	Cholerick
♀ & ☽	Watry	Cold and moiſt	Phlegmatick

As for the temperature of the Planet ☿ he is of himſelf inclinable to the condition of the Sign he is in, or the nature of any other Planet that is in ☌, ⚹, □, △, or ☍ with him; yet in conjunction he is generally obſerved (as ♂ is) to cauſe tempeſts and a turbulent air; but more or leſs according to the diſpoſition of the others, and the Signs he moveth under, ſuitable to their temperatures, and not moderating the evil aſpects of the bad, as men do in this World, according to the old ſaying or Adagie;

Who lives with good, are good we ſee;
And with the bad, perverted be.

Definitions of ſome few terms that are uſed by Aſtronomers.

A *Parallel Sphere* is alſo called vertical, having the World's Poles in the Zenith and Nadir, the *Æquator* in the Horizon; the Meridians and Azimoths are all one; and likewiſe the Parallel circles and Almicanters; in a verticle Sphere there is half a year day, and half a year night; one half of the Heavens never riſeth, and ſo conſequently the other half muſt never ſet.

A right Sphere hath the World's Poles in the Horizon, the *Æquinoctial* circle paſſeth by the Zenith and Nadir, and by that means it divides the Horizon at right angles; in this Sphere every degree and part of the *Æquator*, that aſcendeth or deſcendeth the Horizon with the *Sun*, or any fixed *Star*, will come to the Meridian with the ☉ or the ſame ⚹; for theſe cauſes it is called a right Sphere; and here the days will be always equal to the nights, either of them being 12. hours in any time of the year; and all the Stars likewiſe will be 12. hours above the Horizon, and as long depreſſed in every natural day.

An Oblique Sphere hath one Pole elevated above the Horizon, and the other as much depreſſed; in any oblique Sphere, the *Æquator* will paſs by the Horizon obliquely, making an acute, and conſequently an obtuſe angle with it; and that degree or part of the *Æquator*, which ſhall aſcend the Horizon with the *Sun* or any Star, will not come unto the Meridian of the place with the ☉ or the ſame ✳; for theſe reaſons this Sphere is thus nominated. In all oblique Spheres ſome part of the Heavens will never riſe, ſome will never ſet; and ſome Stars will both riſe and ſet, as by the Sphere is evident in any latitude.

The Altitude, or Poles elevation, is an arch of the Meridian circle, intercepted between the Horizon, and the end of the World's Axis; and the complements are the degrees and parts that it wants of 90, that is, an arch of the Meridian contained between the Pole elevated, and the places Zenith, which in all oblique Spheres is ever equal to an arch of the Meridian, intercepted betwixt the Horizon and the *Æquator*.

The *Declination* of the *Sun*, or any Star, or part of the Heavens, is an arch of the Meridian, paſſing through the centre of the ☉ or ✳, and intercepted between the *Æquator* and the centre of the ☉, ✳ or point of the Heavens, given either North or South.

The *Oblique Aſcenſion* is the degree or part of the *Æquator* that aſcendeth the Horizon with the

Sun or any Star in an oblique Sphere, and thoſe degrees reckoned from ♈ and continued to the end of ♓, that is to 360. degrees.

The *right Aſcenſion* of the *Sun* or any Star, or part of the Ecliptick, are the degrees of the *Æquinoctial* circle, that aſcends the Horizon with them, in a right Sphere, or the degrees of the *Æquator*, that do come unto the Meridian of any place with the ☉, ✳, or any other part of the Heavens, and thoſe reckoned from *Aries* to 360. degrees, in the *Æquinoctial* circle, as were the former oblique Aſcenſions; and this is general in all oblique Spheres whatſoever, and the true degree in the *Æquator*, that aſcended the Horizon, the ☉, or ✳ in a right Sphere.

The *Magnitude* of a Star is to be underſtood only of the fixed, which for diſtinction, and the readier finding them in the Sphere, they are divided into ſix ſorts, the firſt being the greateſt, and ſo in order; but as for thoſe of the ſixt Magnitude, or cloudy ones, they are but little obſerved in the predictions of the weather; yet are here inſerted with a Table of the *Sun*'s right Aſcenſion in hours and minutes; for every 15. degrees of the *Æquator*, is equal to an hour, and ſo each degree is equall to four minutes in time, as was ſaid before.

I have here inſcribed a Table for the *Sun*'s right Aſcenſion every fift day of the year, and two other of the Stars which are obſerved in prognoſtication of the weather, with the right Aſcenſions, Declinations, and Magnitudes of them, whereby they may be readily found on the *Globe*, or without it; when they will be viſible, and when obſcured with the *Sun*, and what time of day or night they will come upon the Meridian; from whence the hour of the night, and many other uſeful propoſitions, and neceſſary concluſions will be deduced, by well obſerving theſe in prognoſtication of the weather.

* * *

A Table of the Suns right Aſcention in hours and minutes, for every fifth day in any moneth in the yeer.

Daies.	*Janu.*	*Febru.*	*March*	*April*	*May*	*June*
	ho.mi.	ho.mi.	ho.mi.	ho.m.	ho.m.	ho.m.
5	19 50	21 57	23 42	1 34	3 28	5 34
10	20 11	22 16	00 00	1 53	3 48	5 55
15	20 32	22 35	00 18	2 11	4 8	6 16
20	20 53	22 54	00 36	2 30	4 28	6 37
25	21 13	23 12	00 54	2 49	4 49	6 57
30	21 33		1 12	3 9	5 10	7 18

Daies.	*July*	*Auguſt*	*Septem*	*October*	*Nove.*	*Decem.*
	ho.m.	ho.mi.	ho.mi.	ho.mi.	ho.mi.	ho.mi.
5	7 38	9 39	11 32	13 21	15 23	17 32
10	7 58	9 58	11 50	13 40	15 43	17 54
15	8 18	10 16	12 8	13 59	16 5	18 16
20	8 38	10 34	12 26	14 18	16 26	18 39
25	8 57	10 53	12 44	14 38	16 48	19 00
30	9 16	11 11	13 3	14 58	17 10	19 23

The right Aſcentions, Declinations, Natures, and Magnitudes of ſome one noted Starre in each Conſtellation of the Firmament from the North Pole to the Ecliptick.

The first Table of * *in North latitude.* *The Starres names.*	*Right aſcentions* ho.mi.	*The Declinations* de.mi.	*The Stars mixt natures.*	Magnitude
The Polar Star	00 30	87 N 19	♄ & ♀	3
Andromedas girdle	00 49	33 N 42	♀	2
The Northern Fiſh	01 00	17 N 21	☽	5
Caſſiopeias knees	01 12	58 N 17	♄ & ♀	3
Delta the north Triangle	01 32	27 N 51	☿	4
The Ramms head	01 46	21 N 42	♄ & ♂	3
Algol, Meduſas head	02 44	39 N 29	♄ ♀ ♃	3
Perſeus right ſide	02 58	48 N 28	♂	2
Pleiades or 7 Stars	03 24	22 N 57	♂ & ☽	3
The Goat and Kids	04 50	45 N 33	♂ & ☿	1
Erichthonius his heel	05 00	30 N 00	♂ & ☿	2
Caſtor, or the head of ♊	07 11	32 N 38	♂	2
The head of Pollux	07 23	28 N 52	♂	2
The Manger in ♋ breaſt	08 15	20 N 56	♂ & ☽	*don*
The northern Aſſe	08 22	22 N 44	♂ & ☉	4
The Lions head	09 11	24 N 38	♄ & ♂	3
Regulus the ♌ heart	09 49	13 N 45	♃ & ♂	1
Caliſto the great Bear	10 40	63 N 43	♂ ♄ ☿	2
Berenices hair	12 00	31 N 31	♀ & ☽	3
Vindemiatrix in ♍	12 44	13 N 9	♄ & ☿	3
Arcturus in Bootes	13 58	20 N 30	♄ & ♂	1
The bright * in ♎	14 57	7 S 57	♃ & ☿	2
The northern Crown	15 18	28 N 7	♄ ♀ ☿	2
The Snakes neck	15 26	7 N 45	♄ & ♂	2
Hercules, his forehead	16 58	14 N 56	♂ & ☿	3
Serpentarius, his head	17 18	12 N 56	♃ & ♀	3
The Dragons head	17 49	52 N 00	♄ & ♂	3
The Vulture and Harp	18 25	38 N 29	♀ & ☿	1

Anti

Antinious his right knee	19 17	7 S 44	♃ & ♂	3
The Eagles heart	19 33	7 N 58	♃ & ♂	2
Capricornus, his head	19 58	14 S 34	♂ & ♀	3
The Swans breaſt	20 19	39 N 9	♀ & ☿	3
The Dolphins head	20 22	13 N 15	♄ & ♂	3
The Waterman, ♒	21 12	7 S 4	♄ & ☿	3
Cepheus left knee	22 55	75 N 0	♄	3
Pegaſus right wing	23 50	11 N 10	♂ & ☿	2

The right Aſcentions, Declinations, Natures and Magnitudes of ſome noted Starres in every Conſtellation of the Firmament from the Ecliptick to the South pole.

*The ſecond Table, of * in South latitude.* *The Stars names.*	*Right aſcentions* ho.mi.	*The Declinations* de. mi.	*The Stars mixt natures*	Magnitudes
The Phænix neck	00 10	45 S 50	♃ & ♀	3
The Whales belly	01 30	12 S 7	♂ & ☽	3
Alcarnar in Eridanus	1 35	40 S 43	♃ & ☽	1
The water Snake	2 00	64 S 30	♀	3
The Hyades or 5 *	3 50	14 N 30	♀ & ☽	3
Aldebaran the ♉ eye	4 15	15 N 42	♂	1
The Hares belly	5 13	21 S 30	♄	3
Orions girdle	5 18	1 S 28	♄ ♂ ☿	2
The Dove	5 40	37 S 00	♃	2
Argonavis	6 10	52 S 30	♄ & ☿	1
Dorado	6 15	66 S 10	☽	4
Syrius the great Dog	6 29	16 S 12	♃ & ♂	1
Procyon the little Dog	7 20	6 N 9	♂ & ☿	2
The Southern Aſſe	8 24	19 N 26	♂ & ☉	4
The flying Fiſh	8 30	68 S 30	☿ & ☽	5
The Hydras heart	9 9	7 S 4	♄ & ♀	1
The Chamelion	10 30	77 S 10		5
The Goblet	10 40	16 S 9		4
The Centaures flank	11 50	49 S 30		2

The Chriſtians Armes	12 00	61 S 10		
The Crows wing	12 15	13 S 23		3
The Indian fly	12 20	67 S 30		3
Ariſta, ♍ ear of corn	13 6	9 S 10	♂ & ♀	5
The Indian Bee	14 10	82 S 15		1
The Wolfes flank	14 30	46 S 30		5
Antares, the ♏ heart	16 7	25 S 30	♄ & ♂	3
The South Triangle	16 15	69 S 15		1
The Altar	16 30	56 S 30		2
The Southern Crown	18 30	43 S 20		3
The foot of Sagittarius	18 40	49 S 30		3
The Peacocks eye	19 50	60 S 00		2
The Indian with darts	20 30	59 S 00		1
The Cranes wing	21 45	50 S 50		5
Fomahand in Piſces	22 36	34 S 10	♀ & ☿	2
Toucan an Indian bird	23 50	68 S 30		1

The uſe of theſe Tables.

THe firſt of theſe, contains the *Sun's* right Aſcenſion, in hours and minutes the fifth day in every moneth, excepting *February*, which is defective, having but 28 days, unleſs it be *Biſſextile* or leap year; and ſome moneths have 31 days, which exceſs or defect is not to be regarded, nor ſuch exactneſſe required, as to a minute, and yet you may allow, in proportion ſome minutes, for any day between theſe, if ſo it be deſired; the head of this table contains the 12 Solar moneths of the year, each in a peculiar column: the firſt hath the days for the fifth day in every moneth, againſt which in each column, ſtands the hours and minutes for the *Sun's* right Aſcenſion thoſe days.

The next Table hath 5 columns; the firſt contains the names of thoſe *Stars* which are uſed in prognoſticating the weather; the ſecond column ſhews the right Aſcenſion of thoſe fixed *Stars*, that is, the hours and minutes, or degrees of the *Equinoctial* circle (reckoned from ♈) that comes unto the Meridian with thoſe *Stars*: the third column doth contain the declinations of thoſe *Stars*, in degrees and minutes, and thoſe diſtinguiſhed with an *S*, or an *N*, to ſignifie whether their Declinations be Northward or Southward from the *Equinoctial* circle; the fourth, their natures, according to the Planets; the fifth and laſt column ſheweth the bigneſſe, or magnitudes of thoſe *Stars*: as whether they be of 1, 2, 3, 4, 5, or 6. magnitude; as their titles in the head of the Table do appear, the uſe of them is as followeth.

To find the Sun's right Aſcenſion.

ADmit it were required to know the *Sun's* right Aſcenſion on the 5. day of *March*; againſt 5 in the Title of days, and in the column under *March*, I do find 23 hours, 42 minutes for the day required, that is, 42 minutes after 11 at Noon, was ♈ the 6 day upon the Meridian; for from that time 355 degrees, 30 minutes of the *Equator* had paſt the Meridian, and Aſtronomers do account from one mid-day unto another; and if the ☉ right Aſcenſion were required upon the 5 day of *July*, it will be found in the Table 7 hours and 38 minutes, and in the ſame manner may the others be known.

To find the right Aſcenſions, Declinations and Magnitudes of theſe Stars.

LOok for the Star deſired in the firſt *Column* of either Table; on the head of the Table you will find whether the Star ſought for, hath North or South Latitude: in the ſecond column ſtands the right aſcenſion, in hours and minutes: the third will ſhow the Declination in degrees and minutes; and whether it be Northward or Southward from the *Equator*; the fourth the temperature according to the Planets: and the laſt will ſhew the magnitude of that Star.

Example, the *Ram's head* is deſired, having north Latitude, whoſe right Aſcenſion is 1 hour, 46 minutes; the Declination 21 degrees, 42 minutes Northward from the *Equinoctial*; The nature participates of both theſe Planets, ♄ & ♂, and is a Star of the third magnitude, and ſo of the reſt; thus are the fixed Conſtellations of a mixt and doubtful nature, according to *Duret*, whom I follow much in this.

To know at any time of the year, in what hour either of day or night, any of theſe Stars will be South.

S*ubſtract the Sun's* right Aſcenſion, from the *Stars* right aſcenſion, the remainder will ſhew the hour and minute of the Stars comming to the Meridian, and whether it be day or night, by being reckoned from noon. But if it be required to know when a Star will be South, whoſe right aſcenſion is leſs then that of the *Sun's*, in all ſuch caſes, add 24 *h.* unto the Stars right aſcenſion, and from that ſum, ſubſtract the ☉ right aſcenſion, and then the remainder will be the hour and minute, that day from 12 at noon, that the Star will come unto the Meridian; this done, for to know whether it will happen in the day time, or viſible at night, or whether it will be neer about the time of *Sun* riſing or ſetting, or how long before or after, I will now ſhow, and explain it (God willing) with two Examples following.

Upon the 10. *day of June*, it is required at what hour the Star called the little *Dog* will be upon the Meridian: the *Sun's* right aſcenſion for that day, I do find to be 5 H. 55 minutes; and the little Dog (a Star of the 2 magnitude) to have for his right aſcenſion 7 *h.* 20. m. from whence ſubſtract the ☉ right Aſcenſion (for the day given) and the remainder will be 1 H. 25. ſo the little Dog will be upon the Miridian the 10 day of *June*, 35 minutes before 2 in the afternoon.

The 25 day of *December* celebrated for the *Nativity of our Bleſſed Saviour*, it is required to know when the middle Star in *Orions* girdle will come unto the Meridian, this is a Star of South Latitude, and of the ſecond magnitude, whoſe Declination, you may ſee is 1 g. 28. min. and the right aſcenſion of this ✳ is 5 H. 18 minu. and the ☉ right aſcenſion the 25 day of *December*, is 19 hours, 0 minutes, which being greater then the given Star; adde 24 hours to it, the ſum will be 29 H. 18 minu. from whence ſubſtract the Suns right aſcenſion 19 H. 0 minutes.

and the remainder will be 10 H. 18 minu. at night.

By *Trigonometry* you may find the true time of ⊙ riſing or ſetting in any Latitude, and for any day in the year; which hour known, and ſubſtracted from the hour of the Stars being *South*, giveth the time after Sun ſetting; as in the Latitude of 52. *g.* 0.m. where the Artick pole is elevated above the Horizon; the ⊙ upon the 25. day of *December* will deſcend the Horizon, at 3.*h.*50 m. which ſubſtracted from 10.*h.*18. m. the remainder will be 6.*h.* 28. the true time after Sun ſetting, before *Orions* Girdle comes unto the Meridian.

Bootes (who is alſo called *Arcturus*) will be full *South* on the ſame day, at 18.*h.*58.m. from whence ſubſtract 12. hours, (for you muſt reckon from noon-day) and there will remain 6.*h.*58.m. in the morning, and before ⊙ riſing 1.*h.*12.m. if it were required when theſe or any other fixed Star will be upon the Axis of the *Æquator*, ſubſtract 6.*h.* from their right aſcentions, and the remainder is the thing required; as *Orions* Girdle was upon the Worlds Axis, at 4.*h.* 18.m. after mid-day, and *Arcturus* 58. minutes after midnight, by the right aſcentions of the Stars and the ⊙, you may find their apparitions, and occultations to any time of the year, with the hour of the night, &c. The *Pleiades*, and theſe two laſt conſtellations are mentioned in the ſacred Scriptures: As *Job* 38. 31, & 32. & *cap.* 9. 9.

The

The ſeverall Aſcentions and Deſcentions of the fixed Stars and Planets.

THis is to be underſtood in reſpect of the hemiſphere, and the Horizon of your place, and that in ſeveral ſenſes too; as a Star is ſaid (ſometimes) to be aſcending, not being come unto the Meridian of any place required; and when any Star is upon the Meridian, it is ſaid to be culminant; and here you are to note, that the influence of any Star is then of moſt force to that place;and obſerve alſo in the aſpects of any Planet in ✳ □ or △; whether both theſe Planets thus aſpected are viſible in that hemiſphere at the ſame time? or which of them? and in what ſign? and whether aſcending towards the Meridian? or having paſt it, deſcending towards the Weſtern Horizon? but the aſcention and deſcention of the Stars,is uſually underſtood for the riſing and ſetting of any Star, according to the violent motion of the *Primum Mobile*; and in reſpect of the Horizontal circle, to that hemiſphere which they muſt paſſe, both aſcending and deſcending.

But know, that in all oblique Spheres (where either pole is elevated above the Horizon) that thoſe Stars can never ſet to that hemiſphere,whoſe declinations towards the pole elevated are greater then the complement of the poles elevation; and thoſe Stars whoſe declinations are as many degrees towards the pole depreſſed, can never riſe: But if the declinations of any Star (towards either pole) be leſſe then the *Æquators* height above that Horizon,then all thoſe Stars(in every natural day) will both riſe and ſet; of which aſcentions and deſcentions of the Stars, there are three ſeveral kinds obſerved, both by the *Poets* and *Prognoſticators* of the weather, in the alteration of the Air: And are theſe,

1. *Coſmicall.* 2. *Acronycall.* And 3. *Heliacall.*

Thoſe Stars are properly ſaid to riſe Coſmical, which do aſcend the Horizon with the ⊙; as the Dog-ſtar doth in Summer, from whence they are called the Dog-dayes, beginning about the 20. day of *July*, and ending in the latter end of *Auguſt*: But in the largeſt ſenſe any Star is ſaid to riſe Coſmical, that aſcends the Horizon in the day time. The Coſmical ſetting of any Star, is when they do deſcend the Horizon at the ſame time when the ⊙ riſes, or at any time of day, but not taken in the ſtricteſt ſenſe.

The *Acronycal* aſcention is the riſing of any Star when the ⊙ ſets; as when the ⊙ doth enter into the ſign ♒, and deſcending the Horiſon, the ſign ♌ will riſe at the ſame time, which is properly called *Acronycal*, although it be often taken for a Star that aſcends the Horizon at any time of night; the *Acronycal* deſcenſion is ſaid of any Star that ſets with the ⊙, as the little Dog-ſtar the 5. day of *June*; but this is alſo ſaid of any Star that ſets in the night time.

The *Heliacal* riſing of any Star, is to be underſtood of thoſe that have been obſcured with the Sun-beams; and the Sun moving according to the ſucceſſion of the ſigns, the Star begins again to appear at his riſing, a little before the Sun, as you may ſee in the Latitude of 52. *g* 0. And on the ſeventh of *Auguſt*, the Lions heart quite obſcured, and a few days after will be ſeen to riſe before the Sun; and the *Heliacal* ſetting, is any Star that is ſeen preſently after the Sun ſetting, and a few days after will be quite obſcured with the glory of his beams; as the 28. of *Auguſt*, you may behold *Spica Virginis* in the *Weſt*, and in a few days after offuſcated with the reſplendent radius of the Sun, his proper motion being Eaſt-ward. This I do deſire may ſatisfie (moſt courteous Reader) as an abſtract of the world; and if further ſatisfaction be deſired, vouchſafe to look over my books of Aſtronomy; and for the better recording (in your memory) the apparition and occultation of the Stars, accept of theſe verſes, though from a rude *Minerva*.

Aſcention Coſmicall (as Poets ſay)
Are Stars that riſe with Sol, or in the day.
Thoſe aſteriſmes Acronycall they call,
That in the night do either riſe or fall.
And thoſe Heliacall (Aſtræa ſays)
Whom Phœbus does offuſcate with his rays.

AN INTRODUCTION TO THE *Second Part of Meteors:*

AS for the word *Meteors*, it ſignifies an apparition in the *Air* (as taken in the common or uſual ſenſe) or high and lifted up: but in general there are two ſorts, one riſen from *Vapours* and *Exhalations*, termed by the *Philoſophers* imperfect mixt bodies, by reaſon they are eaſily reduced into their firſt nature, or proper *Element*, as *Hail* or *Snow*, quickly reſolving into *Water*, and all thoſe which are accounted perfectly mixt, are *thunder bolts*, &c. and the reaſon they do give, is becauſe that ſuch as theſe will not ſo ſoon be converted into their firſt *Elements*, from whence they were extracted or derived, the material cauſe of all, are hot and moiſt vapours, or hot and dry exhalations, from Water and Earth, the efficient cauſe (under *God*) is from the fixed and wandering *Stars*, by vertue of whoſe beams a light rarifi'd ſubſtance is extracted from groſs and heavy bodies, as vapours from water, and exhalations from Earth: their qualities, are heat and moiſture, which cauſeth diverſity of effects, eſpecially in thoſe leſſe perfectly mixt, which are the ſubjects now intended.

Vapours do conſiſt of the four Elements, but the ſubſtance water, as the ſteam of a boyling Pot, which hangs like a dew upon the lid, or cover over it: And *Exhalations* are commonly like ſmoak, of nature hot and dry, as you may behold in a Summers day to offuſcate the *Air*, or make it ſeem dusky with the aſcending of thin fumes, and after this comes uſually thunder, which ſhews from whence theſe exhalations were extracted; for out of *Fire* and *Air* only no *Meteor* can conſiſt, as wanting matter, the *Fire* of it ſelf (as being an Element) is ſo ſubtile, that it cannot be purified; whereas all exhalations and vapours, muſt be refined, and conſequently extracted from ſome groſſer body; for the *Air* (if much rarified) would turn to *Fire*; as you may ſee in violent and circular motions, of wheels or ſuch like things, that are ſet on fire by rarification of the *Air*, where the matter is dry and combuſtible: and when the *Air* becomes groſſe it turns to Water, as you may ſee by your breath, in the winter time, or the *Air* incloſed in vaults, or other hollow places, will quickly be condenſed, by oppoſition of the outward *Air*, or coldneſſe of the place, eſpecially againſt rainy weather; but let us now aſcend to unmask ſome other doubtful quæries.

The places where *Meteors* are generated, is generally held for to be in all, or any Region of the *Air*, which are three, *viz.* the upper from the Element of *Fire* to the clouds, the middle Region containing the clouds, the loweſt from the clouds unto the Earth; bnt *Tycho Brahe*, with ſome others, do conceive the Element of *Air*, for to be delated up into the *Firmament* or fixed *Stars*; but that above the Element of *Fire*, to be of a Celeſtial nature, differing from the inferiour *Air*; and their reaſons are derived from the height of *Comets*, obſerved not only above the Element of *Fire*, but with the **Planets** and ſome higher then the Sphere of *Saturn*, even with the fixed Stars, as the new Star in *Caſſiopæia* which was ſeen, and the height taken by *Ticho* himſelf (in the year of the World's *Redeemer*, 1572) without *parallax.*

The proof of the altitude of *Comets*, is deduced from their *Parallaxes*, that is the difference between the true and apparant height of any blazing S*tar* (being obſerved from the ſuperficies of the terreſtrial *Globe*) and not from the center of the Heavens; and this difference is diſcovered ſeveral ways. Firſt, as by obſerving ſome noted and fixed *Stars*, aſcending the Horizon with it, or preſently before or after; and if they do keep the ſame diſtance, or neer unto it, that *Comet* muſt needs be very high; or by ſeveral obſervations made in other Countries; for if neer ehe Firmament, thoſe fixed *Stars* will appear with it in all Hemiſpheres alike: But if the diſtance between them varies, and in a ſmall diſtance of place or time, it argues thoſe blazing *Stars* are very low. And thus the *Parallaxis* of any thing viſible under the Firmament, will be found greater or leſſer, according to the height of it; As the *Star* in *Caſſiopeia* appearing in the year of *Grace*, 1972. differing but little or nothing in the Parallax, or the obſervations made by divers Aſtronomers in ſeveral Cauntries, in the year of the *Virgin's* being a 1585, there was a *Comet* appeared in the Sphere betwixt *Saturn* and *Jupiter*, and an other in the year of the *Incarnation* of the *Son* of *God*, 1618. between *Jupiter* and *Mars*.

Ariſtotle, with *Regiomontanus*, and many others of his followers, do affirm all *Comets* to be ſublunary: and this their Schollars do alledge, that if the Aſtronomical hypotheſes be true, the *Star* in *Caſſiopæia*, was greater then the fixed *Stars* of the firſt magnitude, and conſequently (by their own demonſtrations) bigger then the whole *Globe* of *Earth* and *Water* above 100. times; and a greater body cannot be extracted from a leſſe; from whence then (ſay they) could the matter be drawn or exhaled to feed ſo great a light for the ſpace of a year and four months? but to this *Galilæus* anſwers, that the higheſt Sky under the Firmament hath matter in it for the generation of theſe blazing *Stars*. *Licetus* to defend the height of *Comets*, doth argue that the Sky hath hard condenſed knots in it, made and enlightned by the rays both of the fixed and wandring *Stars*. *Gemma Phryſius* did diligently obſerve in 3. or 4. *Comets*, that their tails did ſtream or extend out directly contrary to the *Sun*, as if it were by him inlightned. But others do rather conceive from hence, that theſe are *Meteors*, whoſe matter is drawn together, and ſet on fire by ſome *Star* or *Planet* which it follows, and turns unto it by ſome attractive power, and their bodies not round, but dilated according to the matter.

Some do think that theſe Stars were not new, but from the creation, although unviſible to the world before; as that obſerved by *Hipparchus*, or that in the breſt of the Swan, in the year 1600. or that which appeared in the year 1604. in *Sagittarius*;

gittarius; and theſe obſerved without parallaxes, in the year of *Chriſtianity*, 1625. towards the latter end of *Auguſt*, a bright Star did appear at noon-day, to the admiration of the people in the City of *Antwerpe*; which Star many Aſtronomers did behold, and affirmed that it was the Planet *Venus*. From the *Nativity* of our *Lord* and *Saviour*, *Anno* 1630. *May* the 29. being the birth-day of Prince *Charls*, there was a bright Star appeared at mid-day; the decrees of juſt *Heaven*, I dare not preſume for to enter into. So here I will end this diſcourſe of blazing *Stars*, the cauſe and their effects not being certainly known unto mortal man: And thus writes St. *Damaſcene*, *lib.*2.*cap.*7. *Fidei Ortho. Cometæ Dei imperio certis temporibus conflantur, rurſuſque dilabuntur.*

The middle Region of Air contains watry *Meteors*, as *Hail*, *Snow*, and *Rain*; but ſome conceives that thoſe clouds which cauſeth rain, to be the bounds unto the middle and loweſt Region of the *Air*; the midlemoſt is thought not to exceed four miles in depth; and that the loweſt is but ſo high as the Sun can reflect from the ſuperficies of the terreſtrial Globe; ſo one of theſe regions muſt decreaſe by the increaſing of the other; and yet the loweſt region when higheſt, not to exceed two miles; and when leaſt, or the loweſt clouds, not above an *Italian* mile; for there be hills whoſe heads are perpetually covered with Snow, and yet their perpendiculars are found by the obſervations of able *Geometricians*, not to exceed a mile and a half, that is, 12. *Stadiums*, or 1500. Geometrical Paſes, as was ſaid before.

But ſome do urge that *Tenariffe* is higher then *Pliny*

Pliny fains the *Aſpes* to be; others do affirm that 'tis viſible at Sea 4. degrees, or 240. miles; from whence *Snellius* would ſeem to demonſtrate the perpendicular height for to be miles 9 $\frac{1}{2}$, and others 4. miles. There is a mountain in *Peru* called *Periacaca* by the *Indians*, which hill *Joſephus Acoſta* (in his Hiſtory of the *Indies*) doth advance ſo high in the deſcription of it, as he makes the *Aſpes* in *Italy* for to ſeem but like mole-hills unto it; and that the *Air* was ſo ſubtile on the tops of them, that it was unapt to breath in, and that he had almoſt vomited up his life. And ſome erroneouſly do conceive the heads or tops of theſe mountains for to be exalted above the middle region of *Air*.

Cradanus in his 17. Book, *De Subtilitatibus*, affirmeth the higheſt clouds not to exceed two miles, and the loweſt not above half a mile from the ſuperficies of the terreſtrial Globe, being by common experience found to be under the tops of ordinary mountains: Some would ſeem to prove it by thunder and lightning in this manner; obſerve when a cloud breaks over your head, the ſpace of time between the flaſh of lightning, and the clap of thunder, for to be equal unto the firing of a *Cannon*, and the report it gives at a miles diſtance; neither is it heard much further then great Ordnances are, as it hath been often obſerved in great tempeſts both of thunder and lightning, that in 30. or 40. miles diſtance, nothing hath been heard or ſeen, but a fair day, and tranquil Sky.

Some men do think the matter which cauſes this thunder and lightning to have an affinity with Gun-powder, one being compounded by

Nature, and the other imitated by *Art*, which opinions are various both in Philoſophers and Chymiſts; for *Paracelſus* and moſt of his diſciples do affirm, that it is cauſed by *Sulphur* and *Saltpeter*, commixed with a great contrariety of *Mercury* unto either, and theſe three they alledge to be the chief cauſes of *Meteors*. Others do ſay that they are ſulphurious exhalations confuſed in the clouds, and by oppoſition of the vapours and coldneſſe of the place, it gets into a body, where taking fire by antipariſtaſis, it violently forces a paſſage through the condenſed clouds, with a roaring noiſe, to the aſtoniſhment of mortalls: Others do think that tempeſts are cauſed by the wicked condemned ſpirits, and for this cauſe bells are hallowed and rung; probable it is that it may be often times ſo permitted by the *Creator*; as *Pſal.*77. *ver.* 49. and in the 7. of the *Revelation*; yet all is in the power of God, as *Jer.*10.13. & *Pſal.*134.7. *Qui producit ventos de theſauris ſuis.*

Nothing in this world is certain or permanent; opinions of men have their births, periods, courſes, and revolutions, as you may read in all ages, where the opinions of Philoſophers have been buried, and again revived from their funerals, armed with new demonſtrations, and fortified with arguments, yet beſieged and overthrown at laſt by the offspring of others; which ſhews theſe are but diſputations, nothing being certain but the greatneſſe of the *Creator*: yet uſeful concluſions are derived from hence, and neceſſary obſervations may be ſelected from humane conceptions, although the eſſential part cannot be comprehended by us: And here I will end this *Introduction*.

Eccleſiaſtes *cap.* 3. *ver.* 11. *Cuncta fecit bona in tempore ſuo, & mundum tradidit diſputationi eorum, ut non inveniat homo opus, quod operatus eſt Deus, ab initio uſq; ad finem.*

The ſecond Part.

A brief diſcourſe of Meteors: imperfect mixt bodies, and their cauſes.

First you ought to obſerve, that the *Fire*, *Air*, *Water*, and *Earth* (which here we have for our uſe) cannot be called pure Elements, but rather Elementarie bodies; for *Fire* and *Water*, *Air* and *Earth*, are oppugnant and irreconcileable one to another, as they are contrary in their own natures, and can neither generate, nor corrupt ſimply of themſelves, but as mixt they doe; for if theſe were pure Elements which here we have the *Fire* would be immoderate for our uſe; the *Air* to ſubtile, and not fit for living *Creatures* to breath in; the *Water* would be without taſte and not good to drink; the *Earth* would be ſterile, and could neither bring forth, nor cheriſh; and we being all mixt bodies (compounded of the four Elements) could not be nouriſhed or ſuſtained with Simples.

Of

Of the ſeverall diviſions and diſpoſitions of the Air.

THe *Element* of *Air*, is divided into three ſeveral regions; or diſtinguiſhed in three ſeveral parts variouſly qualified, in which are generated many imperfect and mixt bodies, and theſe diviſions are thus nominated, the *Upper*, *Middle* and *Lower Region* of the *Air*; the firſt and uppermoſt, is cloſe adjoyning to the *Element* of *Fire*, and hath a circular motion with it, from *Eaſt* to *Weſt*, carried about by the *Primum Mobile*, ; this *Region* of *Air*, is perpetually hot and dry, by the reaſon of its violent motion, and proximity to the *Fire*. In this Region there are no clouds, becauſe of the heat, and remoteneſſe of the *Earth*, from whence they are extracted, their matters being groſſe and moiſt; but to this place are lifted up, exhalations, being by nature hot and dry, which do eaſily aſcend to that heighth, by reaſon of their heat and levity: theſe imperfect bodies, by the heat of the *Sun* and influence of the *Stars*, are conceived to be exhaled from the *Earth*, or out of lakes, rivers, ſeas, and other watery places; and this *Meteor* as it does aſcend, it leaves the groſſer part, in the loweſt and the middle region; and as it rarifies, it elevates it ſelf, unto the upper region, like a ſubtile and thin fume.

Theſe exhalations having penetrated the middle region, and attained unto the height of the Elements, and circumvolved with a ſlimy matter, oylie, and apt to be inflamed; thus having aſſumed a body, is violently carried about with the *Air*, until with the motion and vicinity of the *Fire* it is inflamed, and then nouriſhed with more exhalations (continually drawn unto it) that it burns and converts it ſelf into divers forms, according to the diſpoſition of the matter, as reſembling *Dragons*, *Lances*, *Torches*, *Comets* or *Blazing Stars*, *&c.*

And ſome again that ſeems to fall and ſlide through the *Air*, the lighteſt part being conſumed, extracted, or drawn away by ſome other means, or the levity of it, unable to ſupport the groſſer part, lets it deſcend, which gliding through the *Air*, and enlightned, appears like a falling *Star* : ſome conceives, that theſe aſcend not ſo high, being of a groſſe body (yet hot) and ſtriving to aſcend is repulſed by the coldneſſe of the middle Region, or the moiſtneſſe of the clouds, and ſo by the reaſon of its own weight, and oppoſition of the Element, it is thrown down again; the ſubſtance of them is like a gelly, tranſparent, and apt to be illuminated.

Comets, and all fiery *Meteors* are uſually moved with the Region they are in, and from *Eaſt* to *Weſt*, according to the raptile motion of the Spheres : but *Seneca* affirms, that he did ſee one which moved parallel to the Horizon, from the North, by the Weſt into the South, and ſo by the Eaſt into the North again; and the contrary likewiſe may be ſo, the exhalations moving as the *Air* and according to the matter which does nouriſh it, as you may ſee fire in a ſtubble: and others have been ſeen to remove ſuddenly from one place to another, caſting forth ſparkles like fire; theſe by ſome are called *Goats*: and ſome have ſeemed as fixt, both in reſpect of their Latitudes and Longitudes.

They may be alſo generated in any part of the Heavens, and at all times of the year: but in cold Countries, rarely but in Autumn; for then the heat is ſufficient to raiſe up the matter, and the temperature of the *Air*, is apt to ſuffer the exhalation to draw to it a ſlimy ſubſtance: which cannot be in the Spring time, the heat being not ſufficient to elevate them, and in the Sommer ſeaſon the exhalations are not ſo groſſe, by reaſon of the *Sun's* heat, diſſipating thoſe vapours, and rarifying the *Air*, and if it could be got together, the middle Region is ſo cold that it cannot aſcend to the upper; and the Winter quarter is cold and moiſt, oppugnant to all ſuch exhalations; and ſo conſequently quite unapt for thoſe generations, or any other of that kind as *Philoſophers* affirm, though experience proves the contrary many times.

The middle Region of Air and what is there generated.

THis Region, or middle part of the *Air* is generally conceived to be vehemently cold and moiſt by *Antiperiſtaſis*, and the effects do alſo prove the ſame: and this we ſee in all things that are oppugnant, incloſed and comprehended by their contraries, being of greater force, doth cauſe the contrary incloſed (not being able to break forth) and withall repulſed by its oppoſite, to contract and fortifie it ſelf: as by experience you may ſee in all living and ſenſitive Creatures, that their inward parts are much hotter in

Winter then in Sommer, and their ſtomachs apter and abler to digeſt; and the cauſe is, for that the heat is then repulſive to the inward parts, by the oppoſition and coldneſſe of the outward air; and beſides, you may ſee that the fire and all combuſtible things will burn more violently in Winter then in Sommer; and the colder the weather is, the more it ſcorches; the reaſon is the ſame in theſe; for the fire grows more violent, by how much the more it is oppoſed with the contrary quality of the ſubdued cold.

The caſe is the ſame in the middle Region of the *Air*; for the upper part is mode hot by the violent motion of it, and the neerneſſe unto the Element of fire; and the lower Region is made hot by reflection of the Sun-beams; and ſo the cold included between them is the more violent, by how much the lower Region is inflamed with the *Suns* reflection, and ſo by that means is colder in the heat of *Sommer* then in *Winter*: But theſe diviſions or portions of the *Air*, have no determined bounds, nor hath the Water in reſpect of quantity; for by the motion of the celeſtial bodies, cold and moiſture getting together, the Element of *Water* will increaſe, and the *Air* of neceſſity muſt then diminiſh; and with the coniunction of heat and moiſture, the Sphere of the *Water* will be diminiſhed, and the *Air* as much increaſed; ſo by this means the *Air* does more abound in *Sommer* then in *Winter*, and the *Water* more in *Winter* then in *Sommer*; and thus the middle Region is greater at one time then at another.

By the heat of the *Sun*-beams, and influence of the *Stars*, *Meteors* are elevated to the middle

Region of the *Air*; thoſe which by nature are temperately hot and moiſt, are extracted from wet and wateriſh places; yet have ſo much heat as is ſufficient to elevate them unto the height of the middle Region, where by reaſon of the coldneſſe of that place, they are condenſed, and do generate there ſeveral kinds of mixt imperfect bodies; the clouds thus incorporated, are with the cold turned into Snow, congealed many times before it does ingender Water: And to prove this aſſertion, you may obſreve that Snow (if compacted or beaten together) is not ſo ſoon diſſolved into water, as Ice will be by the *Sun* or any other means; which argues, had it been water firſt, it would have been the ſooner reduced: Theſe vapours or thick exhalations, drawn up into the middle Region, are often digeſted and turned into water, from thence diſtilling down like miſts, or in very ſmall drops; for the greateſt rain is thought not to fall far through the *Air*, and out of the inferior part of the lower Region.

For it is generally conceived, the rain that falls from the middle Region, deſcends in little orbs, whereby to preſerve it ſelf, and reſiſt the violence of the *Air* through which it paſſeth, and becomes ſmall by reaſon of the diſtance and time in falling; for the Hail does demonſtrate both the bigneſſe and rotundity of the drops, which from humide exhalations drawn up unto the middle Region, and there converted into water, and immediately as the drops do diſtill down, they are contracted into Ice by the Airs coldneſſe in that part, which is called Hail; derived from the high *Dutch Hagell*, or paradventure from the *Hebrew Egell*, which ſignifies congealed drops.

In the *Winter* ſeaſon it is ſeldome obſerved to Hail, by reaſon the cold in the middle Region is more remiſſe then in warm weather; and in *Sommer*-time it is alſo rare, upon any very hot day, becauſe the heat of the lower Region will not permit it for to paſs without diſſolving of it before it comes unto the *Earth*; but frequently in the *Spring* and *Autumn*, the heat being then ſufficient to elevate the matter. and yet not ſo violent as to diſſolve it in the fall; yet ſometimes it happens that great Hail-ſtones are precipitated at Mid-Sommer, or in very hot ſeaſons, and are then the greater, (if the matter be ſufficient) by how much the more it is oppoſed by the lower Region made hot by reflection of the *Sun*; for in all times of the year you may find (if obſerved) more and greater ſtorms of Hail to fall in the day time then in the night.

And ſome do conceive that there is a fiery nature included in them, beſides the heat of that ſubtile vapour which made it to aſcend that middle Region, for by contraries, it is undoubtedly congealed; as you may ſee in Salt (which is hot and dry) to be made of water, whoſe natural temperature is directly oppoſite, being cold and moiſt in open weather, or by the fire-ſide, or in Sommer-time; take a little Salt, and mix ſome Snow with it, ſtir them together till they do incorporate, and they will contract themſelves into Ice, which is done by *Antiperiſtaſis*, or repulſion on every part; as the middle Region of the *Air* is cold, and theſe frigide *Meteors* are ingenerated there. Many other things might be here inſerted, which for brevity ſake are omitted.

The lower Region of the Air, and the effects it produceth.

THis Region of *Air* receives all the former qualities by courſe, according to the ſeaſons of the year; and by the former means (out of wateriſh places) there are exhaled from the *Earth*, moiſt and crude vapours, the groſſer part of them being earthly, and containing but little heat, they are unable to aſcend unto the middle Region; yet with the help of that heat included in thoſe vapours, and the attractive vertue of the celeſtial Orbs, they are raiſed above the *Earth*, and there often times congealed before they can be diſſolved into water; and theſe are called Froſts; whereof there be many kinds, according to the matter exhaled, and the temperature of the ſeaſon, as ſome times of the year the ground (in the mornings) will be hoary, like the head of *Time*, and the graſſe criſped with the Froſt; at other times rine-froſts, or congealed miſts, hanging like pendants on the trees; there be alſo black or wind-froſts, which are not ſo wholſome, for they are groſſe and earthly vapours exhaled out of more undigeſted humors, and not ſo eaſily diſcovered by the ſight as by the ſenſe of feeling.

There be ſome vapours exhaled which are called miſts, the name derived as from the mixture of *Air* and *Water*; of theſe there be ſeveral ſorts, as ſome vapours thin and ſterile, and have not moiſture ſufficient to beget water, nor the heat in them is not prevalent to elevate the groſſe humor, and cauſe them to aſcend, but they hang upon the earth, untill the *Sun* riſes, which if he chaſes away, and diſſipates by the vertue of his beams, it argues a fair day. There be beſides all theſe groſs miſts or fogs, which are more earthly then the former, compoſed of crude and undigeſted vapors, drawn from corrupted places, as out of fennes and mariſh grounds; theſe are very unwholſome, and very unpleaſant to the ſenſe of ſmelling; but are uſually the worſe according to the places from whence they were extracted, or after much calm and moiſt weather.

The nature of Dews in general are theſe.

DEws are defined for to be liquid vapours, extracted from the water, or earth; theſe have an affinity unto froſt, as Rain unto Snow, and are alike in the material cauſe; the efficient cauſe is attributed unto the Stars, and the coldneſſe of the *Air*: Theſe Dews are conceived to be very earthly and ponderous, for they do not aſcend high, but are converted into a watry ſubſtance, ſo ſoon almoſt as extracted, being obſerved much more upon low and wet grounds, then upon high and dry hills; and thicker upon the humble ſhrub, then upon trees, or any exalted plant, as the lofty *Cedar*.

The uſual time of theſe Dews is in the evening, the heat of the *Sun* declining, being unable to ſupport the *Meteors* which he raiſed, and he deſerting the Hemiſphere, thoſe that were more elevated muſt likewiſe fall; and the hotter the day was, the greater are the exhalations, and the nights are uſually then cooler to convert them into water.

All

All *Dews* are commonly obſerved the greater, the *Moon* increaſing, or at the full moſt of all; the ſeaſon of the year is to be conſidered, and the weather, for the hotter the day is, the cooler will be the night, by reaſon of the ſhadow which the terreſtrial Globe then makes: As for an inſtance, you may ſee by the ſhade of trees, or any other interpoſed body, which are cooler in *Sommer*-time then in *Winter*, as in reſpect of the Air in general; for in ſhadowed places, in the heat of *Sommer*, the *Air*, as in oppoſition to the Heat, doth contract it ſelf into a groſſer body; from whence ſome conjecture (as by the parts) that the whole Element of *Air* is by nature cold.

The Virgins thread.

There is a Dew that flies in the *Air* like ſmall untwiſted Silk or Yarn, and falling upon the ground or plants, it does convert it ſelf into a form like Spiders Webs; the matter they conſiſt of, is held for to be an earthly and ſlimy matter, or exhalation ſomething dry; theſe are obſerved for to be both in the *Spring*, *Sommer*, and *Autumn*; but in theſe Northern Countrys they are moſt frequent, the *Sun* neer *Libra*, the days being temperately warm, the earth not exceeding dry, nor yet over-charged with moiſture.

Mell-dews.

Honey-dews ſome conjecture for to be earthly exhalations, mixed with wateriſh vapours, and many ſuppoſe them for to be exhalations from plants, and all ſorts of flowers and vegetables; and this does evidently appear in *Sugar*-canes, and divers kinds of *Indian* Reeds, that have in the morning a Dew hanging upon them, in taſte reſembling honey; which argues by their ſweetneſſe that they are extracted from thence.

Theſe Honey-Dews do afford plenty unto the ware-houſes of the induſtrious Bees with quick returns: their purveyers are going for to ſeek provant, nor their labourers much trouble to get their loading.

Theſe Honey-Dews, as they are good for Bees, ſo they are as deſtructive to divers kind of beaſts, as Sheep, Goats, &c. and in general to all fruits and blooming flowers, eſpecially to Hops and Grapes; they are alſo obnoxious to Corn, and often blaſts it in the blooming: For diverting theſe ſad effects, *Numa*, one of the Roman Kings ſuperſtitiouſly inſtituted a Feaſt called *Rubigalia* and *Floralia*, in the year from the building of *Rome*, 516. *Pliny*, *lib.* 18. *cap.* 29. which Feaſt was obſerved upon the 28. day of *April*, 3. *Kalend. May*; He was adviſed ſo to do by the *Oracles* of *Sybilla*. This Heatheniſh Feaſt the Catholique Church did alter into *Aſcention Week*, calling it *Rogation* from asking a bleſſing upon the fruits of the *Earth*.

The nature of Rain water:

R*Ain Water* is much more inſipide at one time then at another, and hath very often a brackiſh and unpleaſant taſte, yet comfortable to vigetables, and by reaſon of the warmth, it does nouriſh them much better, and more natural for them then ſpring-water, or out of wells; being cold and too earthly; whereas the other participates of the *Air*, which is hot and moiſt; but by reaſon of this commixture of the Elements, it is apt to form divers bodies, eſpecially in calm times; the *Air* wanting motion may corrupt, and ſo conſequently generates many things, according to the undigeſted matter exhaled from the earth, as Frogs, falling upon the tops of houſes and Churches, immediately after a ſtorm, and there they will periſh in a ſhort time, for want of ſuſtenance; which argues they were not there produced. Corn I have ſeen, that was after a ſhowre found upon the leads of Churches, and on the ground in divers places; it had the form of Wheat, but ſmall and without taſte, the colour of it pure white, both within and without.

The loweſt *Meteor* in the *Air*, is the burning candle, or as ſome call it, *Ignis Fatuus*: This is a hot and moiſt vapour, which ſtriving to aſcend, is repulſed by the cold, and fiered by *Antiperiſtaſis*, moves cloſe by the earth, caried along with the vapours that feed it, keeping in low or moiſt places; the light is of an exceeding pale colour, very unwholſome to meet withal, by reaſon of the evil vapours it attracts unto it, which nouriſhes the pallide flame, and will often aſcend (as thoſe exhalations do) and as ſuddainly fall again, from whence the name is derived.

Thunder

Thunder and Lightning, and the cauſes from whence they proceed.

THeſe are conceived to be vapours hot and moiſt, commixed with exhalations that be hot and dry; involved thus within one another, they do aſcend (by vertue of their heat) unto the middle region of the *Air*, where the exhalation by *Antiperiſtaſis* grows inflam'd; and ſtrives to get forth of the cloud in which is involved, and the upper part of the cloud (where the heat would paſſe) by oppoſition grows the ſtrongeſt, and the exhalation grown over-hot by being conſtrained, with violence breaks forth of the weakeſt place, againſt the weather that is in the loweſt part; and by reaſon of the cold above it, the heat and ſubtileneſſe of the exhalation, with its own violence in breaking forth, it glances down upon the earth without doing any harm, if unreſiſted; as conſuming a Sword without hurting the Scabbard; and many other things of this kind, unneceſſary, and too long for to relate.

The clap of Thunder is firſt, but the Lightning ſooneſt appears, by reaſon our ſenſe of ſeeing is much quicker then our hearing: As you may perceive at a diſtance a Man driving a Stake, or felling of Timber, you may behold him ready to ſtrike again, before you hear the former blow; and in ſhooting, or diſcharging of a Gun, you may ſee the fire before the report. With the conj nction of theſe compound vapours and exhalations, ſtones are generated in the *Air*, as other Minerals are in the Earth, but more fiery by nature, and theſe are called thunder-bolts, in their formes perfect cones, like the flame of fire which did generate them out of the terrene exhalation; it ſtrikes not above five feet into the earth, as ſome do affirm.

The remedies againſt Thunder and Lightning; all hard things will preſerve whas is ſoft and liquid; as Iron laid upon Veſſels, will keep the Liquor from ſowring, by the former alledged reaſons; beſides this, it is naturally reſiſted by a cover made of Seals skins, and preſerving that on which 'tis placed upon any creature; and the like does the *Laurell* tree, whirh cauſed many of the *Roman Emperors* in time of Thunder and Lightning, to wear a garment made of *Laurel* boughs: The pale lightning is moſt unwholſome, but the red apteſt to burn; the beſt and moſt aſſured remedy againſt theſe tempeſts, is the protection of *Heaven*: *A fulgure & tempeſtate, libera nos Domine.*

But note, there may be Thunder without Lightning, and Lightning without Thunder; for when theſe hot and dry exhalations are inflam'd, and the cloud weak (in which they are involv'd) the incenſed exhalation breaks forth without violence, in not being reſtrained; but the coldneſſe of the middle Region ſtrikes the flaſhes downwards upon us, but not always upon the earth; but glittering and reflecting on the watry clouds, makes it ſeem cloſe by; as you may ſee by the *Sun* beams, or any other ſuddain light falling upon the water, will reverberate the luſtre, and dazle your eyes, eſpecially if the water be moved with any wind; theſe coruſcations are uſual in hot Countries, or in the heat of *Sommer*.

Thunder without Lightning does happen when theſe hot and dry exhalations break violently through the clouds (in which they are circumvolved) but not inflamed, yet making a roaring noiſe in the burſt of the cloud which reſtrained it; as you may ſee, little bladders filled with wind, will give a crack or report at the ſuddain and violent breaking of them; ſometimes Thunder will happen (and yet no Lightning appear) by reciprocal winds, the clouds violently breaking themſelves in meeting with one another; and this may often happen with inſurrections of ſeveral mutinous exhalations, diſturbing the *Air* with ſeveral commotions; theſe uſually proceed after much calm weather, but are very wholſome to purge the *Air*, left with too much quietneſſe it ſhould corrupt.

Apparitions in the Air made by reflections of the Sun, Moon, fixed Stars, or Planets, upon condenſed Clouds.

Of Circles about the Sun, Moon, or Stars.

SUndry apparitions in the *Air* are made by the *Stars* reflecting upon wateriſh exhalations, for when they happen uniform in all the parts equally rarified and ſuppoſited under the *Sun*, *Moon*, or *Stars*, that their beams cannot penetrate the cloud in any part, by which means the rayes are refracted, and the cloud being uniform and round, the extreams or outward part is inlightned in manner of a miſty circle, which equally will appear about the *Sun*, *Moon*, or *Stars*; but theſe are rarely under any of the fixed *Stars*, but common under any of the *Planets*; yet not ſo uſual under the *Sun*; for by reaſon of his fervour and heat, the exhalation cannot ſo eaſily get directly under it; and being got together, it cannot long ſubſiſt, but the matter will be diſperſt by vigour of his beams; which the *Moon* cannot effect for want of heat, and ſo the oftner ſhe hath thoſe circles about her, they continue longer; the ſame reaſon it is with the other *Stars*; yet the circles made about them, are conceived to be weak and ſterile exhalations, neither ſo apt to beget wind or rain as the former are; for in thick and wateriſh exhalations, the rays of the *Stars* are unable to illuminate them, but will be obſerved by thoſe and ſuch like ſpiſſous, and dark clouds.

Impreſſions in the Clouds repreſenting the Sun or Moon.

THe cauſe of theſe apparitions doth proceed from thick clouds, regular and uniform, as were the former, from whence are cauſed circles about the *Sun* or *Moon*; yet theſe exhalations are more condenſed then be the others, and not ſituated under the *Sun* or *Moon*, as be the laſt; but placed obliquely on either ſide, which clouds are apt to be converted into rain, and by refraction of the *Sun* beams it does expreſſe the form or image of it; as you may ſee in a mirrour of glaſſe or poliſhed ſteel; theſe clouds muſt be condenſed, for the beams of the *Sun* to reflect on, and not under the *Sun*, for then his refracted rays will not be viſible unto us; and if it be not regular and uniform in all the parts, the cloud cannot portrait and expreſſe the whole and perfect image of it; and in this manner there may be repreſented in clouds the figure of the *Moon*; but thoſe are much more rare to be ſeen, becauſe her rays are weaker; and there may be many *Suns* or *Moons* appear at once, upon theſe former alledged reaſons.

Of the Rain-Bow, and the cauſes thereof.

RAin-Bows are generated in wateriſh clouds, ready to be diſſolved into rain; theſe are obſerved to be always directly oppoſite to the *Sun* or *Moon*;as if the ⊙ be in the *South*,the Rain-bow will be in the *North*; and when the ⊙ is in the *Eaſt*,the Rain-bow will appear in the *Weſt*: and the contrary ſo in any part of the Hemiſphere; and the lower or neerer the Horizon that the *Sun* is, the Rain-bow will appear the greater, but never can exceed a ſemicircle, but leſſe, according to the height of the *Sun* above in any Sphere, which is the reaſon at noon day we rarely ſee any, eſpecially the ⊙ being in the *Sommer Solſtice*, or nigh the *Tropick* of ♋, excepting all places far Northward, or toward the pole *Antartick*, where for ſome weeks there is continual day; but the ⊙ in *Winter*, neer ♑ may cauſe a Rain-bow at noon day in theſe our climates; for they are formed by the light rays of the *Sun* falling upon vapours and wateriſh exhalations oppoſite unto him, and but little elevated above the earth; and by reaſon of the great diſtance or remoteneſſe of the *Sun*, the illuminated beams deſcribe his form, after an obſcure and imperfect manner, portraiting only an arch of a circle adorned uſually with three colours, *viz.* Red, Green, and Purple, or inclining unto a Blewiſh colour; the diſtinction of theſe proceeds from the Radius of the *Sun* reflecting upon theſe vapours; for thoſe colours are lighteſt in it which are neereſt to the *Sun*; and thoſe which are remoteſt, do tend more to obſcurity.

As for a demonſtration, you may behold in the commixture of ſuch like colours, and the form of the Rain-bow you may experimentally try, by caſting water in a circular manner againſt the *Sun* when he ſhines: But ſome doe think the red colour to be only made by his rays, the ſecond by reflection, and the third by the ſecond, all contained within ſome condenſed hollow cloud, commixed with Aiery and wateriſh exhalations; for if more Rain-bows do appear then one at any time, it is conceived that they are made by reflection of one another; but the colours in the ſecond will be weaker then thoſe in the firſt; and the third Rain-bow more pallid then the ſecond. If there happens to be three, which is very ſeldome ſeen, then the colours in the firſt will be counterchanged in the ſecond, and the third again like the firſt: Theſe arches in the clouds or Rain-bows, do continue longer then do the circles about the *Sun*, becauſe the diſtance in theſe is ſo great, that his beams cannot ſo ſoon diſſipate the exhalation which cauſed them. Rain-bows in the night time are exceeding rare, becauſe they are made by the *Moon*, whoſe beams are uſually too weak to cauſe ſuch a reflection upon any cloud, at ſo great a diſtance;

and are ſo rarely ſeen, that I will ceaſe to deſcribe them any further.

The cauſes and diverſities of Winds.

WInds by the vertue of the *Sun*, are generated of hot and dry exhalations, evaporated from the *Earth*, and ſtriving to aſcend, are repulſed by the obvious coldneſſe of the *Air*; and forced collaterally about, and upon the ſuperficies of this terreſtrial Globe, moving as they are compelled by the cold, and do receive names, as from whence they blow, and are divided into 32. diſtinct winds, according to the diviſions or points of the *Mariners* Compaſs. The four chief are theſe, *Eaſt* and *Weſt* oppoſite, and ſo the *North* and *South* point, which four do divide the Horizon into four equal parts; and are compared by ſome to the nature and temperature of the four ſeaſons.

But as for theſe exhalations, they are naturally dry, reſolved into *Air* by vertue of the *Sun*, as the moiſt vapours are into rain; ſometimes theſe exhalations are mixed with moiſt vapours,which the *Sun* convers at one time both into rain and wind; the more theſe windy exhalations are reſtrained,by ſo much they will rage; and the more violent they are, by how much they are repulſed, and ſtricken down with the coldneſſe of the *Air*, which makes them often times rebound upon the Earth, which commonly are called whirl-winds, from revolving and throwing up all light things that are in the way where they move; theſe are alſo cauſed by the meeting of two contraries. Winds are the greateſt in open weather; in Froſts exhalations are incloſed within the pores of the *Earth*, and ſo likewiſe by exceſſive heat.

The generation of Waters.

There is undoubtedly a continual flux and reflux of waters, both upon the ſuperficies of the *Earth*, and in the channels within it, as you may ſee by the veins in the bodies of men (a *Microcoſmus* in it ſelf) for the *Earth* being by nature extream dry, without water would be ſterile, and quite unapt to produce any vegetables, or Minerals within her now pregnant womb; and ſo the waters to ſupply this defect, do continually move, as from their Springs, to little Brooks, and thoſe united making Rivers, running along in fruitful Valleys, cooling the ſuperficies of the *Earth*, and ſupplying what the fervour of the *Sun* exhales; this office being performed, and living creatures in it nouriſhed by the ſtreams, the reſt falls into the *Ocean*, and from thence returns into the veins of the *Earth* again; one water ſtill following of another; and this is confirmed by the undeniable authority of the ſacred Scriptures, *Eccleſ. cap.* 1.

Yet many exhalations and vapours are by the *Sun* extracted from the waters, and thoſe converted (by the vertue of his rays) into ſeveral *Meteors*, as moiſt and windy exhalations, which the *Air* as gratefully does repay again unto the waters, as in a continual courſe of amity, and inſeparable league between them; the *Air* which is included within the pores of the *Earth*, is by nature ſubtile, and gets into all the corners and hollow places, whereby to avoid a *vacuum*, which *Nature* does abhor; the *Air* here with cold, (that in the *Earth* does abound) is eaſily condenſed, and turned into drops of water, which falls from their heads into little channels, and ſo diſcends into the valleys; for theſe ſometimes are obſerved at the bottoms or ſides of hills to bubble forth; and the bigger mountains do afford the greater Springs, and the more plenty of water, eſpecially ſuch as are pregnant with Minerals.

The higher and greater that the mountains be, the vaſter are their caverns and hollow places in them to receive the *Air*; and as it turns into water, it is ſupplied with more: And beſides, hills being more expoſed to the *Sun* beams, muſt of neceſſity be fuller of pores then the lower grounds, and plain places; and yet it does not follow that all high places muſt have Springs, becauſe the ſoyl may differ, and the Earth not pory, there will want receptacles for the *Air*, whereby the water ſhould be generated. For a demonſtration of this, you may ſee in the Winter time, or againſt wet weather, the ſtones do become moiſt, with a Dew hanging upon them, and in cloſe and cold rooms drops of water will hang upon the walls; obſerve then but the alterations and fluxibility of the *Air*, the condenſed coldneſſe of the *Earth*, and this will eaſily be credited, which makes Springs generally loweſt in Autumn, as from hence, and being exhauſted with the Sommers heat.

The wonderful vertues and effects of Waters.

F*Ountains* there be which naturally have marvelous qualities, of which I will briefly relate ſome of their ſtrange operations; As a Fountain in *Bœotia*, which being drunk of does ſtupifie the ſenſes, and cauſeth forgetfulneſſe. And one in *Cilicia* which quickens the wits, as *M. Varro* writes. *Ovid. Metam. lib.* 15. writeth the River *Lynceſtus* will inebriate; and the water of the *Stygian Lake* in *Arcadia*, will eat through any mettal, and is held deadly poyſon: In *Dodone* the Fountain of *Jupiter* will extinguiſh a torch that is lighted, and being immediately put in again, it will illuminate it: So writes S. *Auguſtine* of a Well in *Ægypt*; in ſome waters nothing will eaſily ſinck, as *Mare mortuum* in *Judæa*.

Here be waters in *England* that will turn wood into ſtone; but one of the moſt remarkable ſtories is recorded by *Albertus Magnus*, neer *Lubeck* in *Saxony*, where birds in a neſt being touched with a ſtick taken out of the *Sea*, metamorphoſed the young ones into ſtone. There is a River in *Hungary*, that will give Iron a tincture of Copper. *Theophraſtus* writeth of waters that will change the colour of birds or beaſts, if they do drink of it, as from black to white. The waters of *Pentaſium* (as *Solinus* writes) is good and wholeſome for men to drink of, but deadly poyſon to venomous ſerpents. In *Libia* there is a Spring, that at the *Sun* riſing and ſetting is temperately warm, at noon-day exceeding cold, and at midnight exceſſive hot, Some Springs do riſe and fall every ſix hours, as the Seas do ebbe and flow: As for the taſte, colour, and temperature of waters, they are according to the veins and minerals through which they paſs; whereof ſome are hot and drying; as the Bathes, having a taſte of Brimſtone, coming through ſome ſulphurious minerals, famous they are for curing of aches in the bones, and all cold diſeaſes: Thoſe that turn wood into ſtone, or other materials into mettal, do participate much of their natures, and the mines from whence they run; ſome being hot, others cold; ſome ſalt, others freſh; ſome wholeſome to drink, others hurtful and unpleaſant, with divers other ſtrange operations, retaining more or leſſe of the nature and qualities from whence they are derived.

Yet, as we ſaid before, all waters are not conceived for to run through the hollow veins of the *Earth*, but ſome are generated there, in the caverns of hills, and all hollow ſubterranian places, by the condenſed *Air*; and this is not oppugnant to the ſacred Scriptures, *Eccle. cap.* 1. *ver.* 7. for that is the general courſe of all rivers, and the other but particular, which is demonſtrable in man, the little world; for by learned *Phyſitians* it is obſerved, that ſuch bodies as are inclined to a Dropſie, or any phlegmatick diſeaſe, their Urine will be more in quantity and weight then all that they do eat and drink; and this obſerved not only for a few days, but many months together; and the reaſon which they give, is, that not only their meat and drink converts to water, by reaſon of the coldneſſe of thoſe phlegmatick ſtomachs, but the very Air in thoſe bodies does turn to water, and thoſe parts ſupplied with more Air, as it converts to the other element; and ſuch cold cauſes and wateriſh effects may be in the *Earth*: and likewiſe in diſcolouring of water, as by making it black, pale, green, high-coloured, or the like; but howſoever theſe are but peculiar, and from accidental cauſes; for the general courſe of waters is from the Springs unto the Sea, and ſo to thoſe heads again. Thus wonderful are the works of the *Omnipotent God*, every thing magnifying *His* Greatneſſe, *Daniel* 3. *Benedicite fontes Domino.*

Conjectures of the Seas ſaltneſſe, with the Ebbs and Flouds.

THe *Seas* are conceived to be made ſalt and brackiſh by the fervour of the *Sun*'s rays, with the permixion of burnt exhalations, and chafed with the violent and perpetual motion of the flux and reflux of the waters; for by experience we find that liquid things, if hot and burnt, their taſte will be bitter, and with commotion will prove brackiſh; but it is very likely that the Seas were brackiſh from the creation, and by this means continued ſo; but ſome does object that if the rain-water were exhaled from the Seas, and that the Springs did flow from thence, the waters would retain a ſaltneſſe in their taſte; but as for that it appears evidently that the Rain is refined by vertue of the *Sun*, and the Spring-waters by their *Meanders*, in paſſing through the *Earth*; and this you may try by diſtilling of Salt-water, or putting it into Earth, ſo as it may drain forth, and in time it will loſe its ſaltneſſe, being but accidental.

As for the ebbing and flowing of the *Seas*, the cauſe is aſſigned unto the *Moon*, her influence having power over all wateriſh bodies; and beſides, the Tides are obſerved to alter as ſhe does in her courſe (if not hindered or furthered by accidental cauſes, as winds, land flouds, or the like;) She coming later every day unto the *Meridian*, by 48. minutes or very neer; and thoſe *Seas* which flows when ſhe is above the Horizon of that place, will cauſe greater Tides then when ſhe is depreſſed in the oppoſite Hemiſphere; and when ſhe hath latitude and declination towards the pole elevated, the force of her influence is the greater, and the waters will flow the higher, and rage the more violently in all indraughts, eſpecially at the new *Moon* or ful, which are uſually called Spring-Tides; but the full *Moon*, and three Tides after are much the greater, her power then predominating moſt over all wateriſh and phlegmatick bodies, and requires time to bring in greater ſupplies of water into the Land.

Of Earth-quakes, and their cauſes from whence they do proceed.

THe cauſes of theſe are exhalations hot and dry, generated by the vertue of the *Sun* and *Stars*, incloſed within the concaves and hollow places of the *Earth*; yet they cannot break forth by reaſon of the vapours, groſneſſe, and the cloſe compactedneſſe of the Earth which involves them, and there increaſing till it cannot be contained, and not finding a paſſage out, it ſtrives to force one

and

and ſo violently ſhakes the *Earth*, that it cauſes a trembling, which often hath ſwell'd up mountains, and overturned others, and ruinated many Cities, making mens houſes their ſepulchres, and whole Towns involved in a grave, overwhelmed with their ruines; the continuance of *Earth-quakes* is uncertain, from a minute to a day, and a longer time, according to the greatneſſe of the vapour incloſed, and the firmneſſe and ſolidity of the *Earth* which contained it. Here I have ſhewed you the weak and ſuppoſed reaſons of men, in the wonderful and ſtupendious frame of *Heaven* and *Earth*; all which are ſubjected, and do obey the commands of the *Immenſe Creator*, *Eternal God*, and Author of *Nature*, to whom be all *Honour*, *Praiſe* and *Glory*, world without end. *Amen,*

AN INTRODUCTION TO *The Third Part.*

Predictions of the Weather.

TO *Prognoſticate*, or foretel the alteration of the Weather, there hath been (in all Ages) diligent obſervers of *Nature*, who have preſcribed rules and prenotations of the *Airs* mutability, grounded on judicial ſigns, collected from the *Stars* and the four *Elements*, the principles of all ſublunary bodies: Of theſe Predictions there be ſeveral kinds, both general and particular, eſtabliſhed by humane reaſon; ſome derived meerly from old experience, yet many of them true; divers obſervations are aſcribed to ſome particular Place, Country, Province, or leſſe proportion of this our habitable world, being oftentimes confined within the precincts of a pariſh, as by fogs or miſts aſcending from ſome meer or moriſh grounds; or deſcending from the tops of hills, high exalted places, and low depreſſed dales; ſome men do obſerve domeſtick and particular beaſts, as the ſtory of the Herdſ-man, &c.

But as for all ſuch preſages (as are not general, or warranted by ſome ſeeming reaſon) I will quite reject, and leave them at home for to obſerve the ſmoak of their own chimneys; for it is my real intention (at leaſt my deſire) to direct my ſerene inſtructions to the benefit of the tender, vigilant, or diſtreſſed travellers, whereby they may avoid the danger or inconvenience of foul and tempeſtious weather, by preſaging the *Airs* alteration, and the inundation of the lower Regions, menacing the Earth with their over-charged exhalations and vapours, in tumults ready to deſcend; to avoid theſe enſuing ſtorms is the ſcope of my intentions in this Treatiſe, and the better to enable you to do it, I have proſtrated to your view *The Worlds Epitomy*, and the ſeveral riſings, ſettings, apparitions, and occultations of the *Stars*, with the natures of thoſe celeſtrial *Orbs*, the four *Elements*, and all *Meteors* in general the ſecondary cauſes (under God) of heat cold, wet and dry weather; from whoſe exceſſe proceeds want, diſcord, all corporal diſtempers, and from their concord plenty, crowned (by the bleſſing of *Heaven*) with health and happineſſe.

That the *Stars* have their influences upon ſublunary bodies, it is not denied by any learned men, and affirmed undoubtably by many of the moſt famous Philoſophers, Aſtronomers, and Divines, as witneſſe *Ariſtotle*, *Ptolomæus*, and St. *Auguſtine*, *lib.* 13. *cap* 4. *de Trin.* and multitudes more which I have omitted, fearing to incumber this volume with teſtimonies and approbations of that which ſeems demonſtrated unto reaſon, and confirmed by experience; and according to *Hippocrates* (with the conſent of many others) Thunder, Lightning, Hail, Snow, Rain, Storms, and all alterations of the weather may be predicted by the riſing and ſetting of the fixed Stars, with the aſpects of Planets, their natures and qualities conſidered with the climate,region, and ſeaſon of the year.

The Stars being ſuppoſed of ſeveral natures, and each conſtellation mixt, their influencies may cauſe diverſity of effects, as heat, cold, moiſture, or drought, which are the four qualities of the Element; and as for the Planets, they do alter according to their aſpects, which many learned Phiſitians do diligently obſerve in adminiſtring Phyſick, and in the time of their Patients falling ſick, calling the 7. day critical, the 14. &c. Their reaſons are, the *Moon* having dominion over all humors and wateriſh bodies, and in her motion ſwift, doth paſſe in 7. days, and a little more, from one ſign into another of a contrary nature and quality, as from ♎ hot and moiſt, into ♑ cold and dry, and the like of others; from whence the Doctors do judge of the malignity of the diſeaſe, with the hopes of life, or danger of death; and of this you may read in *Gallen* (*lib.*3. *de diebus Criticis*) rather then in me.

And in prognoſtication of the Weather, theſe judicial days would be obſerved in the beginning of drought, Rain, Snow, Froſt or the like, and there would be conſidered the latitude and aſpects of the Planets, the nature of the ſigns they are in, paſſing under the fixed Stars, eſpecially where they are mixt with the nature of thoſe Planets: Conſider the ſeaſon of the year, as Hale, or Rain in the Spring, or Autumn, Thunder and

Lightning in Sommer, Froſt and Snow in Winter: Ponder alſo the riſing and ſetting of the fixed *Stars*, with the Planets, the Eclipſes, Comets and all fiery Meteors, and ſuch as theſe accompanied by nature, are juſtifiable; for God hath given man knowledge and underſtanding in the courſe of natural things and ſigns in the Heavens, whereby to avoid inconveniencies, not with a certain, but a conjectural ſcience, by the Aſteriſms or celeſtial configurations and the four Elements, from whence may be preſaged diſtempers of the *Air*, cauſing contagious diſeaſes, ſterility and the like; as *Ariſtotle* writeth of *Thaletes*, who foretold the ſcarcity of Oyl that would be in the enſuing year; and ſo writes *Pliny*, *lib.*18. *cap.*35. of *Democritus*.

But whether the *Stars* are of theſe mixt natures, or their temperatures be known, it remains as yet in diſpute, and not for me to argue, but only follow the tracts of other men, and their obſervations of the weather, derived from experience, but not preſume to ſearch into the decrees of Heaven, or predict the actions of men, with the event of future things, which many pretend to do; for although that God hath made ſigns in the Heavens, and hath enabled us to know the times and ſeaſons of the year, with all things neceſſary for us to underſtand, yet not to be inquiſitive in thoſe ſacred Ordinances, which the omnipotent *Creator* hath decreed and concealed from us, as unneceſſary to be known; and prohibited by the commands of the Doctors and Councels of the holy *Catholike* and *Apoſtolike Church*, to which ſacred Authority I do humbly ſubmit my ſelf.

And here I will conclude this Introduction, remembring the ſaying of our bleſſed *Saviour* unto His Apoſtles, *Acts cap.* 1. *ver.* 7. *Non eſt veſtrum noſſe tempora vel momenta, quæ Pater poſuit in ſua poteſtate.*

The Third Part.

Of the Weathers Prediction.

The affinity of the 12. *Zodiacall Signs, with the* 7. *Planets in their naturall qualities, with their operations on ſublunary bodies, according to the collections, and obſervations of the Wiſe and Learned.*

THe ſigns of the *Zodiack* in the eighth Sphere are removed almoſt 28 degrees from their places, according to the motion of the *primum Mobile*; ſo that the firſt *Star* in the horn of *Aries*, is in the 28. degree of ♈, and is continued to the 18. degree of *Taurus*, the firſt mover, and in like manner are the reſt of the 12. ſigns.

♈ The firſt parts of *Aries* beginning on the 28.

28. of ♈, and ending in the 4. degree of ♉, do cauſe winds and rain; thoſe *Stars* being of the nature of ♄ and ♂, commixed and aſſiſted with ☿, the middle part of *Aries*, from the 4. degree unto the 10. of ♉ temperate, inclining to heat and drought, by reaſon of the *Stars* in his hinder foot, in his loins and ham, being of the nature with ♂; from the 10. degree of *Aries* to his hinder parts (being in the 17. degree of ♉ almoſt) is very hot; his horns and his neck of the nature of ♂ and ☿, but cool by the ſouthern *Stars* in the *Whale* being very cold of the nature of ♄.

♉ The former parts of *Taurus*, from the 17. degree, to the 27. of ♉, the *Stars* are ſomething windy, turbulent, and cloudy, by reaſon of the *Pleiades* contained within thoſe degrees, and are of the nature of ♂ and ☽, the middle parts of ♉ from the 27. degree to the firſt of ♊ are temperately hot, and ſomething moiſt, by reaſon of ſome *Stars* in *Perſeus*, of the nature of ♄ and ♃, from the beginning of ♊ to the *Hyades* and the horns of *Taurus*, of the nature of ♂; and by the approach of *Orion*, cauſeth Thunder and Lightning, the North part made temperate by *Perſeus*, the South variable and uncertain, by reaſon of ſome *Stars* participating of ♂, commixed with others of the nature of ♄, ☿, and ☽.

♊ The former part of *Gemini* from the 26. of ♊ unto the 6. degree of ♋ are ſomething moiſt and hurtful; the middle parts, from the 6. degree of ♋ unto the 14. the *Stars* do incline to the nature of ♄, as in the arms and knees of ♊, yet temperate, and obſerved drier then formerly they have been; the hinder parts of ♊, from the 14. degree unto the 24. of ♋, are of a mixt and uncertain nature inclining to drought, by reaſon of ſome *Stars* of the nature of ♂ and ☿, the heads of ♊, of ♂, the North part moveth winds, the South part cauſeth heat and drought.

♋ The former parts of *Cancer*, from the 24. of ♋ to the firſt degree of ♌, are *Stars* of mixt and doubtful natures, of ♂, ☿, and ☽, as thoſe nigh the feet of ♋, *Præſepe*, &c. cauſing earth-quakes, or tempeſts; the middle parts of ♋, from the 1. degree of ♌ unto the 7, in which are the little *Aſſes* of nature ♂, and ☉ more hot and dry then formerly, from the 7. degree of ♌ to the 13. the *Stars* in ♋ are of nature ♄ & ♂, very dry, but not ſo windy a formerly; both the Northern and Southern *Stars* of ♋ are generally hot & ſuffocating.

♌ The former parts of *Leo*, from the 13. degree to the 24. of ♌ where *Regulus* is, the *Stars* are of various natures, part of them commixed with ♄ and ♂, others with ♄ and ♀, and part repleniſhed with ♃ and ♂, peſtilent and ſtifling; the middle parts of ♌, from the 24. degree to the 4. of ♍, temperate, and inclining to moiſture but a little; the *Stars* of the nature of ♄ and ♀, and others with ♀ and ☿, the hinder parts of ♌ to the 17. degree of ♍, temperately hot and moiſt; the *Star* in the ♌ tail, of the nature of ♄ and ♀, the North part of this aſteriſm is fiery and unſtable, by reaſon of *Vrſa major*, the South part moiſt becauſe of the *Hydra*, whoſe nature is ♄ and ♀.

♍ The firſt part of *Virgo*, from the 17. degree unto the end, the *Stars* being of the nature of ♂ and ☿, are ſomething hot and offenſive, but leſſe then formerly; from the beginning of ♎ to the

18. degree is temperate, containing in her left wing and thigh, *Stars* of the nature of ♀ and ☿, the end of this conſtellation is from the 18. degree of ♎, unto the 8. degree of ♏, in which is contained *Spica*, ♍, of the nature of ♂ and ♀, and ſome other *Stars* in the train of her gown, of the nature of ♂ and ☿, yet ſomething wateriſh, and more then formerly participating of the ☽; the Northern *Stars* are windy, inclining to ♂ and ☿, the Southern *Stars* to ♄ and ♃.

♎ The former parts of *Libra*, from the 8. of ♏ unto the 15. degree, containeth *Stars* of the nature of ♄ participating with the Southern *Ballance*, and the *Serpent* of *Æſculapius*, which *Stars* are temperately cold, and drier then formerly; the middle of ♎, from the 15. to the 19. degree of ♏ is alſo temperate; the extreams of ♎, from the 19. to the 26. degree of ♏ wateriſh; the Northern part of ♎ windy, of the nature of ♄ and ☿; the Southern part dry and feavouriſh.

♏ The former parts of *Scorpio* from the 26. degree to the 6. of ♐, do participate of *Stars* commixed with the nature of ♄ and ♂; and in the 4. degree, as the *Star Antares*, producing Snow, and more then formerly the middle of ♏, from the 6. degree of ♐ to the 16. degree, the *Stars* are temperate, by the vicinity of *Serpentarius*, of the nature of ♃ and ♀, but moiſter then they have been in former ages: the tail or extreams of ♏, from the 16. of ♐ to the 26 degree are turbulent, their natures being of ♂ and ☿; the Northern parts are hot, the Southern moiſt.

♐ The former parts of *Sagittarius*, from the 26. unto the 6. degree of ♑ the *Stars* are moiſt, and colder then in former ages; the middle part of ♐, from the 6. degree of ♑ unto the 16, the *Stars* are of the nature of ♃ and ♂, yet temperate, inclining to cold; the hinder part of ♐, from the 16. of ♑ to the 28. fiery; the Northern part of this conſtellation is windy, the South part moiſt and inconſtant.

♑ The firſt part of *Capricornus*, from the 28. degree to the 7. of ♒, the *Stars* do participate of ♂ and ♀ which are hot and hurtful; the middle of ♑, from the 7. degree of ♒ unto the 15, more temperate; laſtly, from the 15. degree to the 21. of ♒ is obſerved rainy weather, for the Northern and Southern part of this aſteriſm is generally held moiſt, and alſo hurtful.

♒ The beginning of *Aquarius*, is from the 21. degree unto the end of the ſame very moiſt; the middle of it, unto the 8. degree of ♓ temperate, of the nature of ♄ and ♃; the end of this ſign in the 15. degree of ♓ windy; the Northern part of this conſtellation is hot, the Southern part ſnow or cold weather.

♓ The former parts of *Piſces*, from the 15. degree unto the 30. more cold then in former ages; the middle parts from the beginning of ♈, unto the 15. degree, moiſter then formerly; and laſtly, from the 15. degree of ♈ unto the 28. cauſing a thick and dark air, the Northern part windy, and the Southern is held wateriſh, which concludes the 12. *Signs* and the properties of them in particular.

Aphoriſmes,

Aphoriſmes; or ſelected places out of Cardanus.

CArdan. 7: Aph. 73. does propound theſe ♓ and ♈ do cauſe winds, and the half of ♉, the other part of ♉ being more aireal, participating of ♊ doth produce ſuddain and fruitful ſhowres; ♊ Author of winds, ♋ and ♌ produceth great heat and ſtorms of Hail, ♍ remiſſe heat and giveth ſhowres, ♎ and ♏, inequality of Air, ♐ Snow and Rain, ♑ cold weather does produce, and ♒ waters, eſpecially in the beginning.

Stadius, and the later obſervers collects theſe properties of the 12. Signs, of the firſt mover and 8. Sphere, conformable to this Age.

♈ OF the *Primum mobile* leſſe ſubject to Thunder, but apter to hail then in the times of *Ptolomy.*

♉ Hot, and moderately moiſt.

♊ Temperate, inclining to heat, and alſo to drought.

♋ Cloudy, and not the parent of fair weather, in times paſt.

♌ Hot, with a ſcorching drought and ſuffocating.

♍ Thunder, with moiſture, but more temperate then in former ages.

♎ Various and mutable, inclining ſomething unto drought.

♏ Fiery, but more remiſſe then in the time of *Ptolomy.*
♐ Windy, but moiſter then formerly.
♑ Temperately cold, and a little moiſt.
♒ Cold and watery.
♓ More cold then in former ages.

The natures, properties, and operations of the 7. Planets upon ſublunary bodies, in cauſing Meteors.

♄ Saturn by nature is more cold then dry, eſpecially being Eaſt-ward of the ☉, and in earthly ſigns, producing then both clouds and coldneſſe of the Air; in time of heat it leſſens it; and in froſty weather it much increaſes the cold; when he paſſes from one ſign into another, for many days together he cauſeth red clouds, and fiery apparitions in the Air, inundations, earth-quakes, ſnow, froſts, and much cold, according to the ſeaſon of the year, and ſituation of the Country. *Card.*

♃ *Jupiter* is of nature hot and moiſt, and is accounted the parent of fair weather, being temperate both in heat and moiſture, mittigating the cold of Winter, and the heat of Sommer, cauſing gentle winds, and a temperate Air, with much ſerenity; being Eaſt-ward of the ☉ he increaſeth heat, and Weſt-ward moiſture. *Card.*

♂ *Mars* is hot and dry in exceſſe, and in fiery Signs in Sommer he cauſeth much heat, and in Winter-time remiſſe, mitigating the coldneſſe of the weather; he is accounted as Lord paramount of tempeſts, violent and ſuddain ſtorms of Rain, Hail, Thunder, Lightning, exceſſive heat in fiery Signs, and much Rain in paſſing by the *Pleiades*, as is obſerved by *Stadius*.

☉ *Sol* is by nature hot and dry, but more or leſſe, according to the Sign he is in, or aſpected with the other ſix Planets; or aſſiſted by the fixed *Stars*; in his annual revolution, his greateſt force is in making Hail, moderate in Rain, little Froſts and Snow; the general motive of vapours and exhalations, the deſtributer of light unto the reſt of the *Stars*, Monarch of the skies inabling them with his rays, and the earth with fruitfulneſſe.

♀ *Venus* is temperately cold and moiſt, yet *Argol* ſays moderately warm, predominating over humors, ſhe warmeth little, and moiſtneth much, eſpecially when ſhe is the morning *Star*; in Winter ſhe maketh the Air temperate, but moiſt; and in Sommer ſhe leſſens the drought, and cauſes great Dews and gentle ſhowres, but chiefly when ſhe is in the beginning of ♋. *Card.*

☿ *Mercury* is by nature mutable and doubtful, according to the Sign or nature of the *Star* he is withal, or the Aſpect of any other Planet participating of their natures, with whom he is aſſociated; he is held the father of winds, in earthly and watery Signs; and cauſeth Thunder and Lightning often in fiery or airy Signs.

☽ *Luna*, the loweſt Planet, is of nature cold and moiſt, and but little warm; ſhe naturally moveth the waters, having much force over all phlegmatick bodies and cold humors, and increaſeth them, according to her place in the *Zodiack*, the Aſpect with the ☉, and the other Planets, her aſſociation with the fixed *Stars*, and her latitude from the *Ecliptick*.

Ecliptick. Aſtrologers do allow the *Moon* theſe temperatures, from the ☌ to the firſt of □, cold and moiſt; from the firſt □ unto ☍ moiſt, and ſomething warm; from ☍ to the laſt □ dry, and a little warm; from the laſt □ to the ☌ cold and ſomething dry; but in general ſhe is held to increaſe the humors in all bodies, from the new unto the full; and decreaſing, for to dry them up or leſſen them, yet more or leſſe according to her place and ſeaſon of the year: and the full ☽ is conceived cold in Sommer, and temperate in the Winter ſeaſon; the new ☽ warm in Sommer, and produceth the coldeſt nights in Winter; and in general the conjunctions of the *Luminaries* bringeth the faireſt weather, and their oppoſitions the greateſt ſtore of Rain. *Card.* And thus far for the particular obſervations of the *Planets* properties and natures.

Proper and peculiar obſervations of the weather, in every one of the four Seaſons, or Quarters of the Year.

Spring.

IN the conjunction or oppoſition of the *Luminaries* immediately, or the laſt before the Vernal Equinox, if ♂ were in ☌ with either the ☉ or ☽, expect much Thunder and Lightning for to follow; if ♀ in *March* or *April* be retrograde, expect much wet weather to follow.

Sommer.

If the 5. *Planets* be direct, this ſeaſon will be beautiful and pleaſant: but if theſe 5. be retrograde, then will the Sommer be vehemently hot; for the *Planets* do heat the Air, when retrograde in their courſes, and when direct they cool; and this is general, except when ♃ is in ☍ to the *Sun*. *Planets* in their ſwift motion, do increaſe the heat; but when Stationary, if they be hot, they do inflame the Air; if cold, they cool it; if moiſt, they do beget Rain: and thoſe by nature dry, do cauſe at that time much drought; and *Planets* combuſt in this Sommer quarter, do cauſe much Thunder and Lightning; *Leupold. Tract.6.cap.2.*

Autumn.

Fiery Planets in this ſeaſon, and in our Northern Countries, do cauſe both cold and moiſture; if in this quarter the 5. *Planets* be retrograde, there will be much drought in every Country and climate, and when the ☉ enters into the 18. degree of ♏, if ♀ be in a watery Sign, expect exceſſive rains, with inundations, *Leupold.* 3.

Winter.

Fiery Planets in the beginning of this quarter do produce clouds and Southern winds; if that ♀ in this ſeaſon be direct, and the morning *Star*; in the beginning of Winter ſhe will produce ſome rain, and in the latter end much wet, unleſſe it be hindred by ſome other *Planet* of neer affinity to the *Sun*; and the contrary when ♂ is retrograde, and *Lucifer*, expect then very much rain in the beginning of this quarter, and in the end of Winter but little or none at all.

This general concluſion *Haly* doth propound thus, *Cap.* 4 *part* 1. If ♀ be retrograde in this quarter, it doth preſage a moiſt and rainy Winter: one *Planet* retrograde when in ☌ with ☉ argues drought, eſpecially at the end of this ſeaſon, going out of ♒ into ♓; if there be two *Planets* retrograde, it prognoſticates temperate but moiſt weather; but if three, an abundant deal of wet; and if four *Planets* be in their motions retrograde, it will preſage a deluge. And here ends the obſervations upon the four Seaſons or quarters of the year; the *Sun* entering any of the four Cardinal points, as ♈, ♋, ♎, and ♑. *Leupold.*

The names of the moſt tempeſtious and remarkable Aſteriſmes and Stars obſerved in former Ages, as at this preſent.

THe moſt tempeſtious *Conſtellations* are theſe; *Orion. Arcturus*, and the Northern *Crown*; the moſt windy are the *Goat*, and *Kids*, in *Erichtonius*; the moſt watery are the *Hyades*, and the 7. *Stars* called the *Pleiades*; the cauſers of violent heat, are *Regulus*, or the *Lions* heart, and both the *Dog-ſtars*, as *Sirius* and *Procyon*: Theſe are the chief and principal Aſteriſmes obſerved in preſaging the *Airs* mutability; yet there be many more Conſtellations of note in this kind, although not ſo general in their effects, being of much more doubtfull and promiſcuous qualities; but being part of the Aſtrologers Calender, they ſhall be inſerted, and according to their Coſmical aſcentions for this latitude of 52. degrees, beginning at the feaſt of *Chriſt-maß*, and ſo in order with the *Suns* revolution in his proper courſe through the 12. Signs, as in this manner following.

The head of *Capricornus*, *Andromeda*, *Canda*, ♑, *Piſces*, ♓, the *Rams* head, the *Bulls* eye, the heads of *Gemini*; *Aſelli*, the Aſſes; *Præſepe*, or the *Cribbe* both in ♋ the *Lions* head; the *Hydras* heart, *Vindemiator*, and *Spica Virginis*, or the ear of Corn, both in ♍, the *Vulture* with the *Harp*; the *Serpent* with *Æſchylapius*. *Lucida Lancis*, or the bright *Star* in ♎ the *Eagle*; the *Scorpion* heart, or *Antares*, the *Dolphin*, &c. There are many other Stars obſerved (but not ſo remarkable) which you ſhall ſee in the following Predictions of the Weather. There are divers other Conſtellations towards the antartick pole, not viſible in our Hemiſphere, as the Stern of *Argonavis*, with multitudes more, whoſe natures and effects are not known, and howſoever not for our obſervations, in prognoſticating the weather, and ſo they are purpoſely omitted.

The

The Coſmical and Acronycal riſing and ſetting of the Stars, obſerved in preſaging the Airs Viciſſitude, as in former Ages by Pliny, and at this preſent time.

First, you are to note that the nature of the fixed *Stars*, and their influences are increaſed or diminiſhed by the aſſociation of the *Planets* or wandring *Stars*, either by oppugnant or united qualities; as ♀ approaching any *Stars* of her own nature, cauſeth cloudy and fickle weather, rain or much moiſture; ☿ uniting his rays with *Stars* of his unconſtant and ſubtile nature, cauſeth winds, and a great mutability of the weather; ♂ joyned or commixing his rays with *Stars* of his fiery nature, increaſeth them much more, and inflames the *Air*, being prone unto all combuſtions, as ♂ with *Sirius*, and the rage of the *Dog-ſtar* is mittigated by the approach of ♃ and ♀; the *Planet* ♄ alſo leſſeneth the heat, and cauſeth dark weather, and cold ſhowres when his rayes are united with fixed *Stars* of his own cold and melancholy diſpoſition, and thus judge of the reſt: The influences of the fixed *Stars* to be more or leſſe effectual, according to the *Planets* united with them, or aſcending the *Horizon* of any place together; the time of year and ſign conſidered, and the nature of *Meteors* pondered in your judgement, with what hath been already ſpecified, and ſo to proceed.

1. The *Star Arcturus*, when he ſets *Acronycally*, denotes cold winds, and with the rays of ♂ tempeſts, and conjoyned with ♄, hail, ſnow, winds or cold rain, according to the ſeaſon.

2. *Aſelli* and *Præſepe*, if conjoyned with the rays of ♀ or ☽, it preſages rain or moiſt and miſty weather.

3 The *Coſmical* riſing, and *Acronycal* ſetting of the *Hyades* denotes rain, and if inſtigated by the approach of ♂, expect winds both by Land and Sea.

4. *Virgiliæ*, or the *Pleiades* ſetting *Coſmically*, produceth rain and ſtorms, if joyned with ♂, and the Sky at the ſame time be cloudy, it argues a wet Winter, eſpecially if ♀ be with it; and if the Heavens be clear, it foreſhews a ſharp and cold Winter.

5. *Sirius* with his *Coſmycall* riſing maketh the Seas rough, and ſtupifie the *Fiſhes*; in this I have partly followed *Pliny*.

Obſervations of the weather, by Ptolomy, collected from the aſcentions of the fixed Stars with the Sun.

6 ORions Girdle ſetting *Coſmically*, cauſeth a turbulent *Air*, and if Southerly winds, then rain will immediately follow after.

7. The *Dolphine* ſetting *Acronycally*, cauſeth both Winds and Snow.

8. The *Rams* head riſing *Coſmically* preſageth hail or cold rain.

9 The *Hyades* riſing *Coſmically* prenoteth wet and ſhowry weather; and ſetting *Coſmically*, froſt, ſnow or cold rain.

10. The *Eagle* ſetting *Coſmically*, produceth violent hot weather.

11. *Arcturus* riſing *Coſmically* doth predict ſome ſhowres to follow quickly after, within a few days; from hence the Swallows take their leaves, and repairs to their Winter-quarters.

The obſervations of Maginus, ſelected from the Aſcentions of the Sun and fixed Stars.

12. THe *Aſſes* and *Præſepe* riſing *Coſmically* often preſageth a ſuddain alteration of the *Air*, with thunder, lightning and rain.

13. The *Eagle*, the tail of ♑, or the head of *Meduſa* riſing *Coſmically* produceth Snow.

14. *Libra* riſing *Coſmically*, cauſeth rain, with ſome wind.

15. The *Eye* of ♉ or *Orion* riſing *Coſmically* doth cauſe rain, diſturbeth the *Air*, and ſometimes produceth thunder and lightning; the *Acronical* ſetting of theſe *Stars* cauſeth the ſame effects, with ſuddain ſhowres.

16. *Andromeda*, the *Whale*, the head and tail of ♈, the belly of ♓, and *Fomahand* in ♒, riſing *Coſmically*, do all preſage moiſt weather, and a turbulent Air.

17. The *Sun* entering the cloudy *Stars* of ♌, *Orion*, or ♐, cauſeth lowring weather; and likewiſe the *Hydras* heart, and head of ♏.

18. The *Coſmical* aſcention of the ſhoulder of *Pegaſus*; and the tail of ♑ produceth ſnow, cold, or cloudy weather.

19. The *Acronical* ſetting of the *Vulture* with the *Harp*, predict a moiſt, cold, and cloudy time.

20. *Virgiliæ*, or the *Pleiades* riſing *Coſmically* foreſheweth wet and cloudy weather, and ſuddain ſtorms to enſue.

21. The *Star Regulus* riſing *Coſmically* is a ſign of ſhowres, with thunder and lightning.

22. *Sirius* riſing *Coſmically* prenoteth hot weather, with thunder and lightning; the *Coſmical* ſetting foreſheweth warm weather, but inclining to wet.

23. The *Sun* riſing with any *Star* of *Jupiters* nature, and not commixed with ♄ or ♂, argues warm, clear and temperate weather; with thoſe of ♄ nature, cold and cloudy weather, and ſometimes ſnow; with thoſe of ♀ moiſt, and inclining to rainy weather; aſcending the *Horizon* with thoſe of ♂, it argues tempeſts, with thunder and lightning; with *Stars* of his own nature, or of ☿ winds; with thoſe of the ☽ great flouds and tumultuous billows at *Sea*; and if the *Sun* doth riſe with fixed *Stars* of mixed natures, as ♄ and ♂, it argues in Sommer time a hot and ſuffocating day; theſe laſt ſigns are general, according to *Maginus*.

Obſervations of the weather by the influence of the fixed and wandring Stars, united and collected by Na. Durret.

24. SAturn riſing with the head of *Meduſa*, prognoſticateth for ſome days cold and moiſt weather, according to the ſeaſon or time of year.

25. ♄, with the *Stars* of the *Whale*, the tail of ♈, the horn of ♑, and the belly of ♓, cauſeth a cold, cloudy and troubled Air, ſometimes with rain or ſnow.

26. ♄

26. ♄, with the *Pleiades*, a dark and troubled Air, inclining to rain or ſnow.

27. ♄, with the *Stars* of *Orion* produceth ſhowres, and ſometimes cold ſtorms.

28. ♄, with the *Virgins* ear of *Corn*, cauſeth ſuddain alterations of the Air, with often ſhowres.

29. ♄, with *Arcturus* produceth winds and cold ſhowres.

30. ♄, with the *Dolphin*, the *Crown* or the tail of ♑, produceth moiſt and cloudy weather, and often ſnow and cold ſhowres.

31. ♄, with the *Hyades*, the *Aſſes*, and the *Manger*, cauſeth clouds and rain, with thunder and lightning ſometimes.

32. ♄, with *Regulus* cauſeth cloudy and unconſtant weather, in Sommer-time thunder, in Winter temperate.

33. ♄, with the great *Dog* cauſeth rainy and windy weather, with tempeſts of thunder and lightning.

34. ♃ aſcending the *Horizon* with *Regulus* in Winter, cauſeth fair weather, and leſſens the cold; but in Sommer it produceth heat, and prone to thunder.

35. ♂ riſing with the tail of ♑ makes the Air in hot weather temperate, in winter ſnow, and ſo with the heart of ♏ cauſing the ſame effects.

36. ♂ with *Arcturus* aſcending, doth produce thunder, lightning, rain, and furious tempeſts.

37. ♂ riſing with the *Eagle* cauſeth ſnow in Winter, and cold weather; and in Sommer rain.

38. What hath been ſaid of the ☉ theſe *Planets* will effect; but ♃ with much more mildneſſe, and ♂ with more violence and fury; and thus

♀ with the *Pleiades* cauſeth rain; and with the *Eagle* in Winter, ſnow, or cold rain; and ſo likewiſe ☿ aſcending the *Horizon* with theſe fixed *Stars*, cauſeth very great alteration of the Air; as riſing with *Orion*, the *Hyades*; *Regulus*; the great and little *Dog*; the *Harp Spica*, ♍, &c. All theſe in their aſcentions with ☿ do produce hail, ſnow, rain, and cauſeth the *Air* to be troubled, and maketh many alterations, and often times produceth thunder and lightning, and violent tempeſts; the ☽ with the fixed *Stars* doth often cauſe mutations of the Air; but thoſe are ſoon over, her motion being ſo very ſwift: And here note that in all ſigns of ſtormy weather, the predictions given are moſt prevalent, and do laſt the longer if they happen at the time of any Eclipſe, or the ☌ of the two luminaries.

Prognoſtications of the winds, collected from the obſervations of Pliny and Maginus.

THe word *Wind* is derived from the inſtability of it, and ſignifies to turn; as for their natures and temperatures in general, they are hot and dry exhalations got together in multitudes, yet do retain part of the qualities from whence they are extracted, as from earth cold and dry, from water cold and moiſt vapours; ſome of theſe are called *Anniverſary* winds, as blowing at ſome certain time or ſeaſon of the year; others are called *Provincial* winds; ſo termed as from particular Provincies, no wind being general in all places, by *Sea* and *Land*; and ſome cauſed by great and high mountains in thoſe Countrys; others derived from Lakes, Rivers, Seas, &c. and denominated often from thence; as the *Levant*, or *Subſolanus*, called alſo the Eaſt-wind; how they have been anciently devided and nominated, See *Pliny*, *lib*. 2. *cap*. 47. of his natural Hiſtory.

There may be as many winds as there be ſuppoſed diviſions in the *Horizon*, which the *Sea-men* (to avoid confuſion) do divide into 32. points, repreſented by the Compaſs, diſtinguiſhing thoſe points and parts of the Horizontal circle, by ſeveral and peculiar names; and ſo alſo the winds anſwering to thoſe points, whereof in this I will uſe but eight, being ſufficient for prognoſtication, and the chiefeſt that are obſerved: And firſt, the four principal or cardinal points are theſe, *North*, *South*, *Eaſt*, *Weſt*, dividing the Horizon into four quadrants or 90. degrees aſunder; and thoſe equally divided by four points more; all the eight being 45. degrees from one another, and are theſe *North-eaſt*, and *North-weſt*, *South-eaſt*, and *South-weſt*: As for the temperatures of theſe particular winds, they are ſo uncertain in every Country, that I will write nothing of them more, but refer you to the ſecond part of this Book; for in theſe Countrys the North-wind is cold and dry; the South-winds warm and moiſt, making our bodies generally dull, and cauſeth moiſt weather, and pains in the head; whereas in the Southern parts of *America*, and the *Eaſt-Indies*, the effects of theſe winds are quite contrary, participating of that nature from whence thoſe exhalations were extracted: But the ſigns preſaged by the *Stars*, and derived from the obſervations of learned men, are theſe following.

1. *Orions* girdle riſing *Acronycally* preſageth South-weſt winds, and ofttimes great tempeſts both by Sea and Land.

2. *Aſelli* and *Præſepe*, as *Pliny* ſayes, *lib.*18.*cap.*35. that if in a fair and clear night the *Manger* be not viſible, expect ſome ſtorms or winterly weather.

3. If the Northern *Aſs* be obſerved with any miſt, the Southern winds will rage; and if the Southern *Aſs* be hidden from your ſight, then look for ſtorms and tempeſts from the North or Eaſt.

4. The *Dolphin* ſetting *Acronycally*, produceth cold winds.

5. *Vindemiatrix* riſing *Acronically* cauſeth cold Northerly winds.

6. The *Coſmical* riſing of the *Pleiades* is a ſign of Weſterly winds; the *Acronycal* ſetting bringeth Southerly winds.

7. *Sirius* ſetting *Acronycally*, cauſeth South-weſt winds, and ſometimes tempeſts.

8. The *Caniculare* days bring the Eaſterly winds; and the *Coſmical* ſetting Southerly, weather and tempeſts; the *Heliacal* riſing or apparition of *Sirius* did begin the *Grecian* year.

9. The *Coſmical* ſetting of the *Eagle* produceth Eaſtern winds.

10. *Regulus* ſetting *Acronycally* doth cauſe Weſterly winds, laſting oftentimes for 9. days, but ſeldome very violent.

11. *Vindemiatrix* riſing *Coſmically*, produceth North-weſt winds, and white froſts; if the firſt day of *September* be fair, it betokens a dry *Autumn*.

12. The *Coſmical* riſing of the Northern *Crown* produceth cold winds.

13. *Virgiliæ* ſetting *Coſmically*, bringeth Nor-

thern-winds; if at this time the Sky be dark or cloudy, it foreſhews a wet Winter; and very cold if dry and clear.

14. *Arcturus* ſetting *Acronycally* produceth Southerly winds; and much rain to follow, if it rains at his *Heliacal* ſetting or occultation.

Saturn, ♃, ♂, ☉, & ♀, or any one of theſe riſing or ſetting with the *Triangle*, with ♒, with the belly of the Southern *Fiſh*, with the right ſhoulder of *Auriga*, with the foremoſt head of ♊, with *Præſepe* and the two *Aſſes*, with *Orions* Girdle or ♍; the *Crown Arcturus*, with *Hercules*, or with the *Ballance*, all theſe produceth winds, and many times violent tempeſts, eſpecially the aforeſaid *Planets* being ſtationary or retrograde.

16. *Mercurius* doth produce winds, if he riſeth or ſetteth with the thigh of *Pegaſus*, with *Auriga*, with the *Triangle*; with the *Rams* head ſharp and cold winds; with the *Pleiades* wind and rain; with ♊, with *Orion* tempeſts, and often thunder and lightning; and ſo likewiſe with *Præſepe*, either *Dog* or *Regulus*; the *Hydras* heart, *Arcturus* and *Spica*, ♍, winds and cloudy weather; and likewiſe riſing or ſetting with the *Vulture*, the *Ballance*, the *Eagle*, or the *Dolphin*, aſcending or deſcending the Horizon with ☿ cauſeth often winds and cloudy weather, with the cloudy *Stars* of ♐ lowring weather; but with *Acarner* clear days, and warm winds; and uſually ſo with moſt *Stars* of the nature of ♃; and ſo much for this.

Generall Aphoriſms in Prognoſticating ſtorms and tempeſts, ſelected out of Cardanus, Maginus and Durret.

THe twelve Signes of the Zodiack doe contain the nature of the four Elements; and theſe twelve Signes (by tranſmutation of their places) are divided into four Trigones; each of them containing the temperature and qualities of one Element, as was declared already in the Worlds Epitomy; and being they are conceived to have their ſeverall effects in producing of particular winds, I will once again inſert them, *viz.* ♈ ♌ & ♐ produceth Northweſt winds, ♊ ♎ & ♒ produceth Northeaſt winds, ♋ ♏ & ♓ cauſeth Southweſt winds, ♉ ♍ & ♑ raiſeth Southeaſt winds: and thus are the twelve Signs appropriated to the four points of the horrizon, equally between the four cardinall winds: yet you muſt conſider the nature of the fixed and wandring Stars aſcending with them, in every particular Horrizon.

The preſaging of the winds depends upon many cauſes, and are as various as they be inconſtant; and beſides all this, you muſt know the winds are appropriated unto each proper Planet, as the Eaſt to ♄, the North to ♃, the Weſt to ♂, the South to ♀, the ☉ alſo to the Eaſt, and ☽ to the Weſt: as for ☿, he is indifferent to the other ſix according to the conjunction of his rays with them. For if he applies himſelf to ♄, he produceth great winds, cloudy or rainy weather; if to ♃, warm gales with ſome rain; to ♂ or ☉ hot and corrupt winds; and with ☿ or ☽ moiſt winds. If ☿ changes his latitude, it argues winds; if ſtationary or retrograde, or going from one ſign and entring the other, betokeneth great winds: ♄ alſo doth alter the weather for many days together, in his removing from any one ſign into another, eſpecially being retrograde, and having latitude towards the pole elevated, and the *Apogæon* or *Perigæon* of the Planets is to be conſidered.

There is never any great mutation of the *Air* without the ☌ or aſpect either of ♄, ♃ or ♂, by reaſon their motions are ſo ſlow; great ☌ of *Planets* that are of contrary naures, do cauſe contrary winds, much rain, hail or ſnow, acccording to the ſeaſon of the year; hail is multiplied by the ☌ of hot Planets in fiery *Signs*; the wandring *Stars* in their ſwift motions do beget drought, and likewiſe if they be direct and Oriental; but if ſlow, retrograde or occidental, they do produce rain, excepting ♂; and ſtationary they do generally cauſe winds; and ☿ inſtability of the *Air*, and likewiſe many ☌ or Aſpects of the *Planets* concurring at one time, do pronounce great mutability of the weather, and do uſually very much diſtemper the Element; in this *Cardanus* is oppugnant to *Leupold.*

Here we are arrived, having paſt many ambiguous Meanders, and obſcure Laborinths of humane Hypotheſis, concerning the nature and effects of the fixed and wandring *Stars*, through which I cannot guide you in a direct line with a thread, but am forced to follow the obſervations of others, and the rules by them preſcribed, and delivered to Aſtronomers by ſucceſſion, from one enſuing Age unto another; yet with ſeveral opinions, according to the diverſity of men, and the Countrys they lived in, as *Ægypt*, *Italy*, *Germany*, and the like: Theſe ſeveral temperatures of *Climates*, have cauſed errors in our later obſervations whereas their rules were true perhaps in thoſe Regions where they did inhabite. I have therefore delivered ſome things twice, to ſhew how ſeveral mens opinions do concur; others again I have given you almoſt oppugnant, yet may be in ſome things reconciled; which to do, I refer to your candid Judgement, to chooſe, correct, or reject, as you pleaſe.

I have ſhewn you rules and prognoſtications of the weather, both for days, years, and the ſeveral ſeaſons thereof, as by the fixed *Stars* and *Planets*, with the effects of their influences commixt, (according to humane conjectures.) And now I will place before your eyes, predictions of the weather by mutual Aſpects of the *Planets*, only with themſelves; which way is generally held and approved for to be the beſt and moſt aſſured tract to follow, as in things that depends upon ſo many and uncertain cauſes; yet it is convenient to ponder in your judgement the former rules preſcribed, and thoſe well weighed and conſidered, I will leave it to your application, and ſo proceed to the obſervations of *Maginus*, with ſome diligent collections of my own annexed thereunto.

But firſt there ought to be conſidered whether either *Planet* were retrograde at the time of conjuction, or in any other Aſpect; of which theſe are the chiefeſt, and held of greateſt power in altering the *Airs* temperature, *viz.* ☌ hath the moſt force, and the effects of longeſt continuance; the next is ☍, and then the □; the △ and ⚹, much weaker, and ſeldome obſerved in prognoſtication of the weather, except in ♄ and ♃, or when the others are ſtationary, or elſe ♀, ☿, ☽, any one of theſe parting with ♃ to joyn with ♄ or ♂, portends a turbulent air, and ſtormy weather neer at hand; alſo in ☍, or ill aſpected, will effect the ſame or worſe.

Prognoſtications of the weather by the mutual Conjunctions and Aſpects of the Planets, according to Maginus, Argoll, &c.

Saturn conjoyned or aſpected with Jupiter.

S*Aturn* and ♃ in ☌, ⚹, □, △, or ☍, are according to the nature of the *Signs*; as in fiery *Signs* they generally cauſe drought; in moiſt *Signs* rain, hail, with winds, and great mutations of the *Air*, both before and after, if other cauſes do not interpoſe.

Particularly cauſing in the Spring a troubled or moiſt *Air*; in Sommer, hail and thunder; in Autumn winds, or rain; in Winter froſt, or ſnow; a turbulent *Air*, and durable ſtorms.

Saturn conjoyned or aſpected with Mars.

Saturn and ♂, in ☌, □, or ☍, do produce theſe effects for ſome days, both before and after, eſpecially if ♂ be in his ſlow motion, and properly hail in his □, or ☍, rain, with lightning and tempeſts; in moiſt *Signs*, cloudy and dark weather corrupteth the *Air*, and is generally hurtful, but more or leſſe as aſpected with the fixed *Stars*.

Particularly in the Spring rain or thunder; in Sommer time hail or thunder; in Autumn wind or rain; and in Winter remiſſe cold, yet ſometimes ſnow.

Saturn conjoyned or aſpected with the Sun.

Saturn and ☉, in ☌, □, or ☍, do cauſe generally rain, hail, and cold weather, both before and after, eſpecially in watry *Signs*, or in ♐, and ♑, and is called *Apertio portarum*, or opening the Cataracts of *Heaven*.

Particularly their effects in the Spring are cold ſhowres; in Sommer producing much thunder and ſtorms of hail; in Autumn rain and cold; in Winter ſnow, or moiſt, dark, and cloudy weather, and oftentimes froſt.

Saturn

Saturn conjoyned or aſpected with Venus.

S*Aturn* and ♀, in ☌, □, or ☍, begetteth cold ſhowres, eſpecially in watery *Signs*, with ſometimes hail, but not much, yet unconſtant weather generally.

Particularly producing in the Spring cold rains; in the Sommer ſeaſon ſuddain ſhowres; in Autumn cold ſtorms; and in Winter it portends ſnow, ſleet, or rain.

Saturn conjoyned or aſpected with Mercury.

S*Aturn* and ☿, in ☌, □, or ☍, do generally produce cold winds; in moiſt *Signs* rainy and cloudy weather; in dry *Signs* drought; in aiery *Signs* great winds; in earthly *Signs* cold and drought, hurtful to all vegetables.

Particularly in the Spring ſeaſon theſe aſpects do cauſe winds, with ſome rain; in Sommer leſſe wet, but ſome wind; in Autumn it begetteth clouds; and in Winter ſnow, and often violent ſtorms.

Saturn conjoyned or aſpected with the Moon.

S*Aturn* and ☽, in ☌, □, or ☍, in moiſt *Signs*, do cauſe cold and cloudy weather; in aiery *Signs*, and in ♐, or in ♑, it increaſes the cold, and often cauſeth hail, eſpecially at the full, and at the new *Moon* drought; in dry times ſhe cauſeth froſts, or dark and obſcure clouds; yet ſometimes pleaſant, quiet, and gentle ſhowres, but with ſome cold; and withal ſhe does much at theſe times increaſe the Tides.

Particularly in the Spring theſe conjunctions or aſpects, do cauſe a troubled and moiſt *Air*; and likewiſe in the Sommer with remiſſe heat, and ſometimes hail; in Autumn cloudy weather, with ſome froſts; in Winter cloudy, and vehemently cold weather, eſpecially if either of them be aſpected with ☿.

Jupiter in conjunction or aſpected with Mars.

J*Upiter* and ♂, in ☌, □, or ☍, do properly foreſhew thunder, lightning, flaſhes of fire, and rain; in moiſt *Signs*, thunder, corruſcations, and rain; in fiery *Signs* ſcorching heat, and if riſing with any of the tempeſtuous *Stars*, it may cauſe hail in Winter, and if otherwiſe, ſtorms and ſnow.

Particularly in the Spring and Autumn whirlewinds; in Sommer thunder, tempeſts, and combuſt heat; in Winter remiſſe, cold, and a temperate *Air*.

Jupiter in conjunction or aſpected with the Sun.

J*Upiter* and ☉, in ☌, □, or ☍, do generally produce wholeſome winds or gales, fair, clear, warm and temperate weather, eſpecially in aiery *Signs*; in watery or moiſt *Signs* it begetteth fertile ſhowres; in fiery *Signs* it increaſeth heat, and aſſures us conſtant fair weather, but in earthly *Signs* leſſe.

Particularly in the Spring and in Autumn winds; in the Sommer ſeaſon, thunder and lightning; and in Winter remiſſe cold, and a temperate *Air*.

Jupiter in conjunction, or aſpected with Venus.

JUpiter and ♀, in ☌, □, or ☍, do beget a wonderful pleaſing, tranquile, calm, and temperate *Air*, with grateful fair weather; in watery *Signs* gentle and wholeſome ſhowres; and in other *Signs* generally pleaſing gales, and clear weather; much fertility, plenty of fruits; wholeſome weather in any quarter of the year according to the ſeaſon

Jupiter in conjunction or aſpected with Mercury.

JUpiter and ☿, in ☌, □, or ☍, do generally generate winds, and often great tempeſts without rain; in fiery *Signs*, drought and warm winds; in airy *Signs* fair weather, and pleaſant gales; winds are uſually his effects in every quarter or ſeaſon of the year.

Jupiter

Jupiter in conjunction or aſpected with the Moon.

JUpiter and ☽, in ☌, □, or ☍, doth generally produce ſerene weather, propitious and favourable winds; in ♄ and ♏, white clouds ſpreadeth over the Skyes, but in all quarters of the year it affordeth uſually fair and temperate weather, and very calm.

Mars in conjunction or aſpected with the Sun.

MArs and ☉, in ☌, □, or ☍, do uſually cauſe thunder, lightning, rain, hail, with vehemency and hurt, eſpecially in Sommer; in fiery *Signs*, it begetteth heat and drought; in airy *Signs* a dark Sky, and ſpiſſious clouds, and many diſeaſes it produces, eſpecially in the Spring.

Particularly in the Spring and Sommer they cauſe whirlewinds and drought, eſpecially if the *Signs* did participate of both their natures, the effects will be diſeaſes, and cauſe cloudy weather; in Sommer time vehement heat, with thunder, and lightning; and in the winter it leſſens the cold,

Mars in conjunction or aſpected with Venus.

MArs and ♀, in ☌, □, or ☍, in watery *Signs* cauſeth much rain, opening the floud-gates of Heaven; in other *Signs* leſſe rain generally.

Particularly in the Spring and Autumn they generate rain: in Sommer often ſhowres; and makes the winter ſeaſon not very cold, but alters the preſent ſtate of the weather.

Mars

Mars in conjunction or aſpected with Mercury.

MArs and ☿, in ☌, □, or ☍, in fiery *Signs* do declare heat, and exceſſive drought; in watery *Signs* rain, and often ſhowres; in airy *Signs* warm winds, and thoſe uſually violent.

Particularly do generate hail and cloudy winds; in Autumn, in the Spring, and Winter, ſnow; in the Sommer tempeſts of thunder, lightning, and hail, and often violent ſtorms.

Mars in conjunction or aſpected with the Moon.

MArs and ☽, in ☌, □, or ☍, in watery *Signs* prognoſticates rain; in fiery *Signs* drought; and ſcatters over the heavens with red and yellowiſh clouds, cauſing often times rain; and as in *Signs* that are aireal, it makes the weather warm.

Particularly they cauſe in the Spring and Autumn ſhowres; in Sommer thunder, lightning, and hail; in Winter remiſſe heat, and oftentimes extendeth the celeſtial bow, a premonitor of following rain, but uſually not much.

The Sun and Venus in conjunction.

SOl and ♀, in ☌, do generally prognoſticate moiſt weather, eſpecially in watery *Signs*, and particularly in the Spring and Autumn rain; in Sommer thunder and ſhowres; and in the Winter quarter moiſt and foggy weather.

The Sun and Mercury in conjunction.

SOl and ☿, in ☌, do commonly beget winds in airy *Signs*; with moiſture, in watery *Signs* rain; in fiery *Signs* drought, warm winds, with corruption; theſe two *Planets* do always accompany the *Sun*, neither of them exceeding 60. degrees in their greateſt diſtances, and this not 30.

The Sun and Moon in conjunction or aſpected.

SOl and ☽, in ☌, □, or ☍, in moiſt *Signs* produce rain, reddiſh clouds, and great drops of water; and in fiery *Signs* fair weather, and altereth the *Air* according to the ſeaſon of the year, and the preſent temperature of the time; at the new and full ſhe cauſeth the greateſt flux of the Sea, and all wateriſh humors, and much the more if aſpected with the *Hyades* or *Pleiades* at the ſame time, with other circumſtances to be conſidered, as the other *Planets*, and what hath been ſaid before.

Venus and Mercury in conjunction.

VEnus and ☿, in ☌, do commonly beget in moiſt *Signs* ſhowres, and generally at all times of the year moiſt winds, and if this conjunction ſhall happen when the two luminaries are in ☌, □, or ☍, or within an hour it will cauſe an inundation, or very much rain, if not hindred with other intervening cauſes.

Venus in conjunction or aſpected with the Moon.

V*Enus* and ☽, in ☌, □, or ☍, preſage generally mild and gentle ſhowres, or moiſt weather, with ſome cold, according to the ſeaſon; and much increaſes the flowing of the Seas, cauſing violent Tides, eſpecially with *Hyades* or *Stars* of their own natures.

Particularly in the Spring moiſt and cloudy time; in Sommer remiſſe heat; in Autumn they produce dark clouds; and in the Winter ſeaſon a cold and troubled *Air*, if not ſnow, ſleet, or rain.

Mercury in conjunction or aſpected with the Moon.

M*Ercury* and ☽, in ☌, □, or ☍, do ſignifie winds, clouds, rain, with various and unconſtant weather, and generally in all ſeaſons of the year, if it happens in watery *Signs*, rain, or moiſt weather is preſaged; in airy *Signs* wind; in fiery *Signs* drought; in earthly *Signs* cold; they cauſe alſo, many times, pale uncontinued clouds, reſembling the colour of ſmoak; but the effects of theſe are not durarable, or of long continuance, without the aſſiſtance of the higher *Planets*.

The fixed and wandring *Stars* are obſerved diligently by ſome in adminiſtring Phyſick, Phlebotomy, &c. which I will omit in preſcribing any Rules, (being out of my element) but leave it to the learned Practitioners. Others do vigilantly regard the *Planets* in Agriculture, and above all the *Moon*, predominating moſt over vegetables; but this is alſo out of my rode, excepting my Predictions of the Weather, and ſeaſons of the year; as for other things Experience is the beſt inſtructor; yet thoſe that will, may ſatisfie themſelves with *Virgils Georgicks*, with *Pliny*, *lib.*17. & 18. and divers others of that kinde; but being this you have, and thoſe not always at hand; peruſe theſe few collections, if you pleaſe, they being held general.

Obſervations in Agriculture.

TO plant or ſow, the *Moon* in theſe *Signs*, is held the beſt, *viz.* in ♈, ♉, ♊, ♍, ♎, ♑, & ♓, and if the ☽ be aſpected with ♀ it is the better, as cauſing the more moiſture.

Plant or graft trees the ☽ increaſing in ♉, ♎ and ♒.

Sow all ſeeds after the new ☽; but round ſeeds neer the oppoſition ☽ is generally held the beſt, but all moiſt ſeeds in wet grounds the ☽ decreaſing.

Gather fruits the ☽ decreaſing before the laſt quarter.

The Eclipſes of the two *Luminaries* are generally obſerved prejudicial to this kind of husbandry, and the bloming of Corn.

Any *Planet* that is retrograde, and in ☌ with the ☽ is accounted hurtful to planting, graffing, or ſowing.

The wind in the *North* or in the *Eaſt*, is held deſtructive or hurtful to planting, graffing, or felling of timber.

Cut hair, and ſhear ſheep the ☽ increaſing.

Preſages of the weather by Experience, collected from the inflamation of Comets, fiery impreſſions, influences: and apparitions of the Stars reflecting on ſublunary Meteors.

HItherto I have diſcovered (according to my ability) the effects of the fixed and wandring Stars, ſelected from their aſpects, by the regiſters of Experience, conceived by them the efficient cauſe (under God) of Wind, Rain, Hail, Snow, &c. But all men not being Aſtronomers, and my intentions generall, to whom I indeavour the dedication of my diſcourſe; therefore I will demonſtrate the weathers tranſactions, by ſigns derived more directly from the immediate dictates of *Nature*, beginning with *Comets*, being generally ſuppoſed to be ſublunary, and ſo deſcend unto thoſe more inferiour, according to my preſcribed order. intending to treat of falling *Stars*, *Rainbows*, and all fiery apparitions in the *Air*, and then our terreſtrial fires; for although they are compounded of the 4. *Elements*, yet I will rank them amongſt theſe, becauſe the flames of all combuſtible matters, do naturally of their own accords aſcend towards the *Element* of fire, the ſeat of lenity; whereas all heavy and ponderous things do tend downwards, preſſing toward the ſeat of gravity and centre of the *Earth*.

The effects of Comets.

1. ALl fiery impreſſions and *Comets* do preſage violent tempeſts of long continuance, and alſo they do denote much heat and inflamation of the *Air*, *Pliny, lib.*2. *cap.*25.

2. Frequent and many *Comets* do foreſhew ſterility of the *Earth*, famine, plague, burning feavers, and many other peſtiferous diſeaſes; by reaſon they do conſume the humidity of vapours, and exhalations, and ſo from thence they ingender choler, inclining men prone to diſcentions and civil wars; it threatens Princes and great men with death, and all ſuch as are of tender or fiery conſtitutions; to this conſents *Cardanus, lib.*1 *cap.*1. but the effects of theſe are the more violent, and of longer continuance, by how much the greater and permanent they are; and the like judge of all unuſual fiery Meteors.

3. The ſhooting or glancing of ſeeming *Stars* through the *Air* do preſage rain, ſnow, or tempeſtious weather quickly after to enſue; and obſerve what point of the *Heavens* theſe *Meteors* point at, from that quarter will the wind proceed; if there be many of them falling often, and ſeveral ways, it is a ſign the weather will be variable;

but if they be numerous, and all tending one way, then expect great winds, much ſnow or rain, and probably to continue long, for it argues the *Air* to be very moiſt and cold, oppugnant to the *Meteor*.

4. When you ſhall behold in the ſable night, the Hemiſphere to ſeem more glorioully adorned with glittering *Stars*, then uſually it is in fair and ſerene weather; or thoſe *Stars* to twinckle, like ſpangles upon a ſable veſtment, expect then ſuddainly to follow rain, ſnow, or miſty weather; as you may judge according to the preſent temperature of the *Air*, and ſeaſon of the year conſidered, the cauſe of either is thin and wateriſh vapours, tranſparent and interpoſed between the *Stars* and our ſight; and theſe *Meteors* moving, or carried with the circular motion of the *Air*, upon which the *Stars* reflecting do cauſe the apparition of many, formed in the clouds by their rays, as by multiplying glaſſes may be demonſtrated, or in ſhallow cryſtal ſtreams of rivers, wherein you may behold the *Stars* (by reflection of the water) to twincle, and many *Moons* to appear at once.

5. Circles about the *Stars* (eſpecially the *Planets*) that are pail and wateriſh do preſage rain or ſnow; but if theſe circles be of a reddiſh colour, expect ſome winds.

6. If the *Stars* in the night do appear dim, like a ſullied or unpoliſhed diamond, or greater then they uſe to be, or ſeem to hang as if they were ready for to fall, it argues that the lower Region of the *Air* is full of thick and wateriſh exhalations, which their rays cannot directly penetrate, but

by reflection do appear thus unto us; yet theſe in Sommer time, or in hot Countrys, do often prove but miſts, and thoſe chaſed away by the *Suns* ap-approaching the Hemiſphere; but in Winter (eſpecially) or in moiſt weather they do commonly turn to rine-froſts, ſnow, rain, or very foggy weather.

7. When the *Stars* do appear bright, and on a ſuddain the Hemiſphere ſhall be vailed with ſpiſſious clouds, expect then ſome preſent change of weather, for it ſhews the Sky to be full of vapours, and thoſe by the powerful influence and concurrence of the *Stars*, are drawn together and digeſted into ſnow or rain, ſo that the *Air* cannot ſupport them, but they muſt ſuddainly fall.

8. If the *Stars* do ſeem very low, it argues that the lower Region of the *Air* is full of wateriſh *Meteors*, or tranſparent exhalations; for if the *Stars* do ſeem pail and bright, it denuntiates rain; and if red, windy weather.

9. Red ſtreaks in the *Air*, and all fiery impreſſions like flames, do preſage winds, and from that quarter whence they did ariſe; if they extend far, and move down wards, expect a tempeſt; for the colour ſhews the nature of the *Meteor* to be hot and dry, forceth to retreat by the frigide moiſtneſſe of the *Air*.

By Thunder and Lightning.

10. IF there be more thunder then lightning, it argues a ſtreſſe of wind from that part it thundered, if not rain.

11. When it does lighten, and no clap of thunder follow, it is a ſign in Sommer time of much heat, and ſometimes rain.

12. When it lightens only from the North-weſt, look for rain the next day.

13. Lightning from the North preſages winds, and often times great tempeſts.

14. If from the South or the Weſt it lightens, expect both wind and rain from thoſe parts.

15. Morning-thunder produceth winds, but midday or in the afternoon generally rain.

16. If the lightning appears very pale, it argues the *Air* to be full of wateriſh *Meteors*; and if red or fiery, inclining to winds and tempeſts.

17. When the flaſhes of lightning do continue long before they vaniſh, the tempeſt is like to be great, and it argues the *Air* to be very moiſt.

18. Thunder and lightning in Winter, in hot Countryes is uſual, and hath the ſame effects; but in theſe Northern Climates it is held ominous, portending factions, tumults, and bloody wars, and a thing ſeldome ſeen, according to the old Adigy, *Winters thunder, is the Sommers wonder.*

19. Generally if it thunders from ſeveral quarters of the *Heavens* at once, expect then moiſt violent ſtorms immediately to follow.

The effects which theſe *Meteors* do produce, is evident; for theſe exhalations being fiered and oppoſed by the cold of the middle Region, do violently break forth of the clouds (in which they were involved) and diſſipate them, cauſing tumultuous riots amongſt the windy exhalations, opening a paſſage for the cataracts of water to iſſue down.

By the Sun.

THe two great *Luminaries* (in prognoſticating the weather) *Virgil* and *Pliny* does prefer before thoſe obſervations of the *Stars*, which are but apparitions in the clouds, and lower Region of the *Air*, as the others be; whoſe rays falling upon theſe elevated vapours and exhalations do declare by their colours what regiments they are of; from theſe apparitions of their colours, we do judge the nature of the *Meteor*, and from thence conclude the prognoſtication of the enſuing weather.

20. The *Sun* riſing clear, and not fiery red, prenotes a fair day; but if pale and warm, it argues ſnow, hail or rain; if purple colour, wind and rain.

21. If the *Sun* at his riſing appeareth hollow, it argues rain.

22. If before the *Sun* riſing the clouds be red, intermingled with ſome that are black, expect both wind and rain.

23. If the rays of the *Sun* be red, both at his riſing and ſetting, there will follow much rain or wind.

24. When the evening in the Weſt appears red, and the morning following free from any clouds at his riſing, it foreſhews fair weather.

25. If the clouds at his riſing do diſperſe themſelves ſome Southward, and others Northward, expect that day both wind and rain.

26. At his riſing or ſetting, if his beams be ſhort, it is a ſign of a ſhewre.

27. At his ſetting if it rains, or if his beams look dark or blew, or many clouds about him like bulwarks, heaped one upon another, great ſtorms and tempeſts will enſue the next day.

28. If his rays ſeem not bright and clear at his riſing, and clouds gather towards him like globes or wool-packs, it argues ſtormy and winterly weather; but if thoſe clouds do retreat towards the Weſt, it may prove a fair day.

29. Red clouds, or of purple colour, appearing in the North or in the Weſt, at the *Sun* riſing, denotes either wind or rain.

30 If the *Sun* riſeth pale or wateriſh, and quickly after proves obſcured with thick clouds, it will rain before his ſetting.

31. When you ſhall ſee at the *Sun* riſing a circle of clouds invironing him, it is a ſign of rain; if he be incloſed with a double circle, tempeſts; and the neerer theſe circles do circumvent him, the ſtorm will be the greater; and if theſe circles be red or mixt, expect then violent ſtorms both of wind and rain; if this circle breaks, obſerve from what part, for out of that quarter of the *Heavens*, which the fraction repreſents, the ſtorm will riſe.

32. The *Sun* riſing, if he appears ſpotted, or caſteth forth rays of ſeveral colours, or part of his body eclipſed with ſpiſſious clouds, it argues rain and tempeſtuous weather.

33. If the body of the *Sun* (at his ſetting) be mixed with sky-colour or purple, expect then immoderate tempeſts, and ſtorms of wind and rain.

34. If the *Sun* at his riſing ſeem to be as it were affronted with clouds, in tumults moving towards him, obſerve from what quarter of the *Heavens*

they come, from thence will the ſtorm ariſe; and if they come from the South, expect then both wind and rain, eſpecially if the clouds were fiery red or, mixt.

35. If the *Sun* doth caſt his beams a far of amongſt the clouds at his riſing, and ſome of them ſeem refracted, or the middle void, it preſages rain.

36. If he ſpread his beams before he riſes above the *Horizon*, expect both wind and water.

37. If at his ſetting there appear a white circle about him, there will be ſome troubleſome weather the enſuing night; but withal, if there be a thick miſt invirons him, the tempeſt may be outragious, both wind and rain.

38. If there be red clouds about the *Sun* at his riſing, which do become black or dark ſoon after he is up, it preſages rain.

39. If the *Sun* all day, or before his ſetting an hour or two, appeareth with a purple colour, and coming to the *Horizon*, deſcending ſeems greater then at other times, it foreſhews both wind and rain.

A Paraphraſe.

HEre with the ſetting *Sun* I will end his preſages, and now behold the *Luminary* of the night; for what hath been ſaid of his riſing, is or may be applied (for the moſt part) as rules in preſaging the weather, at the time of his deſcending the *Horizon* of any place; but not ſo certain and effectual as his firſt apparition in the morning, becauſe there be more groſſe and undigeſted vapours raiſed in the night, or fall for want of heat to concoct and diſpoſe of them according to their qualities; the reaſon of all theſe preſages is grounded upon the colour of the vapour or exhalation; on which the *Sun* reflecting doth cauſe theſe fiery and diverſity of apparitions, elevated above the ſuperficies of the *Earth*, but neer us, interpoſed between the *Sun* and our ſight, which by the vertue of his rayes he converts according to their qualities and quantities into ſeveral *Meteors*: for if they ſeem pale, they are watery; if red, windy; if black and mixt, both: if his rays ſeem refracted, broken or crooked, it is by reflection of one cloud upon another, which argues their number to be many; and if unpenetrable, it ſhews them to be great and groſſe: And ſo much for the *Sun*.

By the Moon.

40. THe *Ægyptians* (whom *Virgil* and *Pliny* follow) did obſerve the fourth day of the *Moon* (after the Conjunction) to be the ſureſt ſign; for if ſhe does appear after *Sun*-ſetting pure and bright, it argues fair weather; and if red, wind; if dim or cloudy, ſtorms and wet weather: alſo if the tips of her horns be blunt, it foreſhews foul weather; and if very ſharp pointed, it preſages winds, fair, or froſty weather.

41. If her Northern horn be only ſharp-pointed, it preſages wind from that coaſt; but if her lower or Southern horn be only ſo, the wind will be Southward: and if ſhe hath a red circle about her,

it is a ſign of wind and rain. But *Varro*, who maketh theſe obſervations alſo of the weather, ſays, That if the *Moon* hath a circle or garland about her, and the ſame clear and bright, it promiſes fair weather until the Full.

42. If the *Moon* after the change appear not until her fourth day, and the wind blowing Weſt, expect then cold and winter-like weather; the reaſon that the fourth day is obſerved in theſe, is this, her fourth time aſcending the *Horizon*, reckoned from the New *Moon* incluſive, is but three days compleat, in which time ſhe does recover light, and hath then entered another ſign of a different nature from that at her change. But ſome would have theſe rules obſerved when her age is ⅛ part of her whole courſe, that is, three days and ſixteen hours very neer; but this cannot be ſtrictly obſerved, the *Moon* not being then always viſible above any one *Horizon*.

43. The *Moon* increaſing, and riſing with her upper or Northern horn blackiſh, preſageth much rainy weather after the Full; but if the tip of her lowermoſt horn be ſo aſpected, then it will rain before the Full; but if it appears blackiſh between her horns, that is, in the middle of her body, according to *Varro*, it will be wet weather about the time of her being Full.

44. When the *Moon* is at the Full, if her body ſeem very fair and bright, it is a ſign of good weather; but if red, it argues wind; if inclining to black, rain; and if a miſt about her, it is a ſign of ſnow, rain or wind; and if two or more of theſe circles, it is the worſe, and preſages ſtorms; and where the circle is brighteſt, or moſt tranſ-

parent, from that part of the *Heavens* expect the winds.

45. Laſtly, the eight points or angles which the *Moon* maketh with the *Sun* are obſerved by many, and are theſe days, *viz.* 3, 7, 11, 15, 19, 23, 27. and the day in which the two great *Luminaries* do happen in Conjunction.

46. Obſerve what weather it is when the *Moon* comes to be South any day, if the weather changes not then, it is like to continue that day, whether it be fair or foul. This would alſo be obſerved in the other *Planets*, at what time they do come unto the Meridian of any place, ſo well as their riſing and ſetting.

But to find the ☽ coming to the Meridian, multiply her age by 4, and divide the product by 5, the quotient will be the time required.

Example, admit the *Moons* age were 5, which multiplied by 4, the product will be 20, and that divided by 5, the quotient will be 4, the hour of her being South that day, and ſo for any time.

By Rain-bows.

46. THere have been Rain-bows in the night-time ſeen, made by the *Moon*, and as for their effects (being ſeldome known) they ſhall be omitted only as ſigns conceived prodigious; but thoſe of the *Sun* made by his rays are uſual; and are theſe, a Rain-bow appearing preſently after rain, is held a ſign of fair weather, and that the ſtorm is paſt; but if two or more be ſeen at once, it is a preſage of future rain; for it argues the

clouds to be very wateriſh, when the reflection of the one can form the impreſſion and figure of another in ſeveral clouds, as it were in mirrours; a Rain-bow broken preſages tempeſts.

Of the Ignis fatuus.

48 THeſe pallid fires appear but at ſome times of the year, and that in certain places; and in thoſe parts where they are moſt uſual, they are not commonly ſeen, but as fore-runners of ſultry heat in Sommer, and wet in the Winter; they are uſually obſerved to appear in open weather; yet I have ſeen one in a very cold ſeaſon, both for froſt and ſnow, moving but a little before me, and within a few days after the froſt did break; they are *Meteors* ſeldome ſeen, little obſerved in prognoſtication of the weather, and ſo I ſhall lead you no further, until a better diſcovery of their natures be made, and their effects better known, which are generally held unwholeſome; and ſo let them paſſe as *Ignes fatui.*

By terreſtial fires.

49. WHen our common fires do burn with a pale flame, they preſage foul weather.

50 If the fire do make a huzzing noiſe, it is a ſign of tempeſts neer at hand.

51. If the flame of a candle, lamp, or any other fire does wave or wind it ſelf, where there is no ſenſible or viſible cauſe, expect ſome windy weather.

52. When candles or lamps will not ſo readily kindle as at other times, it is a ſign of wet weather neer at hand.

53. When the fire ſparkleth very much, it is a ſign of rain.

54. If the aſhes on the herth do clodder together of themſelves, it is a ſign of rain.

55. When candles or lamps do ſparkle and riſe up with little fumes, or their wicks ſwell, with things on them like muſhrums, are all ſigns of enſuing wet weather.

56. When pots are newly taken off from the fire, if they ſparkle (the ſoot upon them being incenſed) it preſages rain.

57. When the fire ſcorcheth, and burneth more vehemently then it uſeth to do, it is a ſign of froſty weather; but if the living coals do ſhine brighter then commonly at other times, expect then rain.

58. If wood or any other fuel do crackle and break forth wind more then ordinary, it is an evident ſign of ſome tempeſtuous weather neer at hand; the much and ſuddain falling of ſoot preſages rain.

A Paraphraſe.

THe natural cauſe of theſe (as I ſuppoſe) is this, the *Air* in the lower Region (being apt for either heat or cold) does alter according to the inclination of the weather, whether it be diſpoſed to heat, cold, rain, or wind; the *Air* thus altering, when it becomes wateriſh, makes the flaming fire appear pale; candles nor lamps apt to light; their cotten-wicks to ſwell with tumours upon them like horſe-ſhooes, or muſhrums, the moiſt air being got into them, which by oppoſition makes the fire to ſparkle, or being cold, inclining to froſt, it cauſes it to ſcorch; the *Air* which does infuſe it ſelf into the pores of the fewel, being moiſt, and rarified by the fire, turns into wind, and ſo wanting room breaks a paſſage forth, which makes the wood to crackle, the flame to wave, and ſparkles to fly; and this in brief is the cauſe of them, ſo far as I conceive; our fewel being commixed of the four *Elements*, and ſo by oppoſition or participation theſe effects are cauſed; and this makes the ſoot in chimneys for to fall, being by nature dry, and looſned by the moiſtneſſe of the *Air*.

By Air, Winds, Clouds, and Miſts.

THe *Air* in which we breath being commixt and no pure Element, doth generate ſeveral *Meteors* (as was ſaid already in the ſecond part) and the preſages theſe; if the *Air* ſeem dusky, hotter then ordinary, and unapt to breath in, expect then thunder and lightning.

60. When the ringing of Bells, or other ſounds are heard more plain then at other times, and if by intervals it ſhews the *Air* to be dilated and diſturbed, which preſages either wind or rain, if not both.

61. A ſharp and cold wind after rain foreſheweth more to come, the exhalation or vapour not being ſpent in the former ſhowre.

62. Winds that do continue long in any one point, will cauſe the weather for to be generally the ſame, whether it be fair or foul; but if it ſhifts often in changing the place, it preſages rain quickly after to enſue; but in times of froſt it is a ſign that the weather will break.

63. Whirlwinds do predict approaching ſtorms uſually of rain or hail; theſe you may foreſee by raiſing the duſt, or any ſuch light materials; and and oftentimes theſe whirlwinds are forerunners of great tempeſts; for it is a windy exhalation driven obliquely upon the horizontal plain, and forced down by the coldneſſe or moiſture of the preſent *Air* in the lower Region; this repercurſion of the *Air* cauſeth chimneys to ſmoak more then uſually they do at other times, preſaging rain or great winds.

64. Sometimes theſe whirlwinds are cauſed by the meeting of one another, and ſo raiſing light things, as in contention, hurling them to and fro, at the pleaſure of the prevailing party; and ſuch as theſe do uſually preſage tempeſts; as you ſee when the clouds are moved ſeveral ways at once, and from the ſame cauſe above, as it is below.

65. It is probable that there is alſo many exhalations which do ſuddenly break out of the *Earth*, and do produce theſe whirlwinds, which are by nature held hot and dry; the cauſe how theſe do predict ſtorms and tempeſts, is conceived this; againſt rain, or any wet weather, the pores of the *Earth* does naturally open, and ſo gives a paſſage to them; they being hot and dry, do ſtrive for to aſcend, and ſo much the more then, the exhalation being oppoſed by the moiſtneſſe and the

coldneſs of the *Air* infuſed into the *Earth*, which changes as the *Element* does.

66. Theſe whirlwinds are precurſors of tempeſts, when the *Air* incloſed in the *Earth*, is apt for to convert it ſelf into theſe windy exhalations, and there increaſing ſo as it cannot be contained, yet not ſo reſtrained as to cauſe an Earth-quake, but finds an eaſie paſſage through the pores of the *Earth*, whereby to evaporate and free it ſelf from reſtraint into the open Air.

67. Theſe exhalations when they happen for to be frozen in with extream cold weather in winter, and venting themſelves in wateriſh places, as in the bottome of great ponds, meers or rivers, where by Antiperiſtaſis, or oppoſition of the cold waters, it does congeal the botttome, when the outward air cannot freeze the top or ſuperficies of the water, by reaſon of the motion, but in the deeps, where it is ſtill and quiet; theſe are called anchor or ſubterranean froſts; they are not uſual, neither will they endure long; but when they do happen, it is moſt commonly extream cold weather, and little or no ſnow; theſe are generally held very hurtful unto plants; and deſtructive to the fiſhes; and by freezing up the channels, make the rivers overflow.

68. When the *Air* is dilated or rarified, it is a ſign of much heat, or againſt rain, which by your ſmelling you may know when ſhoars, naſty places, or things corrupted are more offenſive then at other times.

69. When the clouds be dark, deep, and very ſpiſſious, it is a ſign of rain, and ſometimes tempeſtuous weather.

70. Many ſcattering clouds wandering in the *Air*, and moving ſwiftly, argues wind or rain, and from the North or South it is the worſe; but if the racke rides both wayes, it foreſhews a tempeſt.

71. If the racke in the forenoon rides in the *Air*, from the *East* weſtward, it argues rain at night; but if from the *West*, it does foreſhew a cloudy morning, if not rain; and at any time of day, when the *Sun* beams and wind meet, it may cauſe the ſame effect by vertue of his rays.

72. When the clouds ſeem piled upon heaps like fleeces of wool, it preſages wet weather, and neer at hand.

73. If the clouds fly low in Sommer, it is a ſign of rain; and in Winter it prenotes cold weather to enſue quickly after.

74. When the clouds ſeem white and jagged (as if rent aſunder) gathering together in a body, their forces united, do foretel a ſtorm; the nature of the exhalation is apparently turbulent by the form and colour.

75. Hollow and murmuring winds do preſage ſtormy weather; for it ſhews the *Air* is moiſt and dilated, ſo cannot find an eaſie paſſage, but is oppoſed or hindred in the motion, by hills, trees, and hollow places, which it gets into and makes a noiſe.

76. The *Air* being a ſubtile body, infuſes it ſelf into the pores of timber, boards, &c. and againſt rain being converted into water, or a moiſture, which makes boards to ſwell, and is the cauſe that Wainſcot, and Joyners work doth crack againſt wet weather; doors will not eaſily ſhut or open, &c.

77. Paper againſt wet weather will grow weak, damp, and ſwell, the reaſon is the ſame with the laſt; but in writing paper it will ſooner be perceived, and more certainly predict the weather; becauſe it is done over with a thin ſubſtance of a gummy nature, which with the wateriſhneſſe of the Air, diſſolves and grows moiſt, giving way for the Incke to ſoke into the paper, which the Gum in dry weather will not permit.

78. When the clouds ſeem overcharged, and white withal like towers, expect then hail or ſnow, according to the ſeaſon of the year.

79. After a ſtorm of hail, expect a froſt to follow the next day after.

80. When Spiders webs, poplare, and thiſtle-doune, and ſuch light things do fly in the *Air* up and down, as it were to make nature ſport, or a type of *Fortunes* favours; theſe are ſigns of the weathers changing, and ſpeedy mutability; for theſe things of lenity are eaſily moved by the firſt Inſurrection of any exhalation, precurſor of the weathers change, and oftentimes wind.

81. Miſts deſcending from the tops of hills, and ſettling in the valleys, is a ſign of a fair day, eſpecially in Sommer time, and then an argument of heat; for they were exhalations raiſed by the ferver of the *Sun*, and by the *Air* in the evening, (which in hot weather is coldeſt) it is converted into miſts and dews, as a neceſſary proviſion of *Nature* to cool the *Earth*, and refreſh her fruits, whereby to enable them that they may endure the next days heat. White miſts are the ſame; but more wateriſh, and inclining to rain; and if they do aſcend, it preſages rain, and argues the middle

Region of the *Air* not for to be very cold, the loweſt wateriſh, and the vapour warm.

82. If in calm and ſerene weather you do obſerve the rack to ride a pace, expect winds from that quarter; for it is evident that the exhalation above in the clouds converts into a wind or rain, and will deſcend; but if clouds do aſcend any day, it preſages the ſtorm is paſt.

But neither this, nor ſome of the other obſervations are conceived general; diverſity of climates producing ſeveral and various effects, and beſides, the ſeaſon of the year ought to be conſidered, the weather having peculiar properties in ſeveral Countries and places; as the nights in *Africa* are dewy in Winter; clouds in *Ægypt* ſo heavy, as if the *Air* were unable to ſupport them; and in ſuch tumults, as if they threatned the world with a deluge; yet march all away without any drop of rain. *Locri* and the lake *Velinus* in *Italy* have no day but there is a Rain-bow appears; in *Syracuſa* and *Rhodes*, no day in all the year ſo cloudy, but that the *Sun* is ſeen to thoſe places; moſt hot Countrys (neer the torrid *Zone*) have frequent flaſhes of lightning, and in their Winter often without rain, with many other obſervations purpoſely here omitted.

By Water and Earth.

83. The water of the Fens, and ſtanding pools, growing warm without heat of the *Sun*, more then uſually, is a ſign of much rain; the *Element* of *water* being rarified, as appears by the parts.

84. The rain falling in ſmall drops, argues thoſe clouds were high from whence it fell, and a ſign of much wet.

85. If the rain be whitiſh, and falling into water riſeth up in bubbles, it ſhews the rain will continue, and that the water is then full of windy exhalations; and if the ſhowre does ceaſe, the wind will ſucceed it.

86. The rain falling upon the *Earth*, or floods, if ſoon drunk up, are ſigns of more.

87. Linnen or woollen cloth dipped in the water, and expoſed to the *Air*, if it ſoon freezes, it is a ſign of much or violent froſt.

88. Drops of water after rain falling from the eves of houſes, ſlowly one after another, is a ſign of froſt; for the *Air* works eaſily upon ſmall parcels, foreſhewing in thoſe parts an inclination of the greater.

89. If the *Sea* at low water within the harbour be calm, and yet makes a rumbling noiſe, it preſages wind; and if ſo by fits, expect both cold weather and rain.

90. If the *Sea* or Sea-bancks, in calm weather make much noiſe, or the billows ſeem to heave and riſe up, it preſages a tempeſt neer at hand.

91. If the *Seas* be very rough and boiſterous, the wind not great, the waves have been diſturbed either with a tempeſt paſt, or elſe at one approaching; and if the billows do make a noiſe as with a refracted *Air*, like the murmuring ſound of woods, the ſtorm is neer at hand.

92. When the tops of high hills are clear and free from clouds or miſts, it is a ſign of fair weather.

93. If a murmuring ſound be heard in valleys,

or from hollow caves within the *Earth*, or rivers make a rumbling noiſe more then uſual, running with troubled ſtreams, any of theſe do preſage a ſtorm.

Preſages of Earth-quakes.

94 THe extraordinary ſwelling and riſing up of the *Seas*, when there is neither wind nor flood to cauſe it, foreſhews an Earth-quake, obſerved by *Poſidonius*.

95. When the waters in wells, fountains, or deep pits, are much troubled, and have an evil ſavour, and a taſte of ſulphure, that were pleaſant before, it does argue an Earth-quake.

96. A roaring noiſe under the earth, reſembling thunder, is the forerunner of an Earth-quake.

97. When the *Air* for a long time wants motion, and is ſtill, that birds can ſcarcely fly for want of wind, it foreſhews an Earth-quake.

98. *Ariſtotle*, with ſome others, do ſay that a black and narrow ſtreak or line, right under the *Sun*, ſtretched out to a great length, and remaining or continuing long, does preſage an Earth-quake; but this doth rather ſignifie a great tranquillity of the *Air*, and ſo a ſecond cauſe, but not the immediate.

A Paraphraſe.

The reaſon of theſe and the former ſigns of tempeſts, by Water and Earth, are both one; for in long continued calms, the material cauſe of winds, is detain'd within the bowels of the Earth, and there being rarified, ſearches the veins, caverns, and hollow ſubterranean places to get a paſſage; but finding readily none, and not able to contain it ſelf, it forces a way, and according to its quantity diſturbs the Waters, and ſhakes the Land, or breaks forth into a tempeſt, with horrid noiſes, according to the reſiſtance made, or which is apteſt and moſt facile to be effected.

By ſenſitive Creatures; but firſt by Beaſts and Reptiles.

99. Beaſts eating greedily, and more then they uſe to do, prenotes foul weather; and all ſmall cattel, that ſeem to rejoyce with playing and ſporting themſelves, foreſhews rain.

100. *Oxen* and all kind of *Neat*, if you do at any time obſerve them to hold up their heads, and ſnuffle in the *Air*, or lick their hooves, or their bodies againſt the hair, expect then rainy weather.

101. *Aſſes* or *Mules* rubbing often their ears, or braying much more then uſually they are accuſtomed, preſages rain.

102. *Hogs* crying, and running unquietly up and down, with hay or litter in their mouths, foreſhews a ſtorm to be neer at hand.

103. *Dogs* tumbling and wallowing themſelves much and often upon the earth, if their guts rumble and ſtinke very much; are ſigns of rain or wind for certain.

104. *Cats* coveting the fire more then ordinary, or licking their feet, and trimming the hair of their heads, and muſtachios, preſages rainy weather.

105. *Moles* plying their works, in undermining the Earth, foreſhews rain; but if they do forſake their trenches, and creep above ground, in Sommer time it is a ſign of hot weather; but when on a ſuddain they doe forſake the valleys and low grounds, it foreſhews a flood neer at hand; but their coming into meddows preſages fair weather; and for certain no floods.

106. *Spiders* creep out of their holes and narrow receptacles againſt wind or rain; *Minerva* having made them ſenſible of an approaching ſtorm.

107. The Common-wealth of *Emmets*, when buſied with their egs, and in ordering their State affairs at home, it preſages a ſtorm at hand, or ſome foul weather; but when Nature ſeems to ſtupifie their little bodies, and diſpoſes them to reſt, cauſing them to withdraw into their caverns; leaſt their induſtry ſhould engage them by the inconveniency of the ſeaſon, expect then ſome foul and winterly weather.

108 The little ſable beaſt (called a *Flea*) if much thirſting after blood, it argues rain.

109. The lamentable croaking of *Frogs* more then ordinary, does denote rainy weather.

110. *Glow-worms*, *Snayles*, and all ſuch creatures, do appear moſt againſt fair weather; but if *Worms*

comes out of the earth much in the day time, it is a preſage of wet weather; but in the Sommer evenings it foreſhews dewy nights, and hot days to follow; and here ends the prognoſtications of the weather by Beaſts and reptiles.

By winged Creatures.

111. THe vigilant *Cock*, a bird of *Mars*, the good houſe-wives clock, and the *Switzers* alarum, if he crows in the day time very much, or at *Sun* ſetting, or when he is at rooſt at unuſual hours, as at 9, or 10, expect ſome change of weather, and that ſuddainly, but from fair to foul, or the contrary; but when the *Hen* crows, good men expect a ſtorm within doors and without; if the *Hens* or *Chickings*, in the morning come late from their rooſts (as if they were conſtrained by hunger) it preſages much rainy weather.

112. The offspring or aliance of the *Capitolian* guard, when they do make a gaggling in the *Air* more then uſual, or ſeem to fight, being over-greedy at their meat, expect then cold and winterly weather.

113. *Birds* that do haunt the Fens, if they often waſh themſelves, it preſages rain or wind, and ſo in moſt birds or fowls that do prune their feathers with an oyly ſubſtance, as a proviſion of *Nature*, in preparing themſelves againſt a ſtorm.

114. *Cormorants*, *Gulls*, *Ducks*, *Mallards*, and all

water-fowls, when they bathe themſelves much, prune their feathers, and flicker, or clap themſelves with their wings, it is a ſign of rain or wind.

115. *Cormorants* and *Gulls*, flying from the Sea and ſtanding lakes, preſages a ſtorm.

116. *Cranes* ſoaring aloft, and quietly in the *Air*, foreſhews fair weather; but if they do make much noiſe, as conſulting which way to go, it foreſhews a ſtorm that's neer at hand.

117. *Herons* in the evening flying up and down, as if doubtful where to reſt, preſages ſome evill approaching weather.

118. *Ravens* and *Crows*, when they do make a hoarſe, hollow and ſorrowful noiſe, as if they ſobbed, it preſages foul weather approaching.

119. *Crows* flocking together in great companies, or calling early in the morning with a full and clear voice, or at any time of the day gaping againſt the *Sun*, foreſhews hot and dry weather; but if at the brinck of ponds they do wet their heads, or ſtalk into the water, or cry much towards the evening, are ſigns of rain; the *Woodpeckers* cry denotes wet.

120. *Jack-daws*, if they come late home from forraging, preſages ſome cold or ill weather neer at hand, and likewiſe when they are ſeen much alone.

121. *Buzards* or *Kites*, when they do ſoar very high and much to leſſening themſelves, making many plains to and again, foreſhews hot weather, and that the lower Region of the *Air* is inflamed, which for coolneſſe makes them aſcend.

122. *Swallows* flying low, and touching the water often with their wings, preſages rain.

123. *Owls* whooping after *Sun* ſet, and in the night, foreſhews a fair day to enſue; but if ſhe names her ſelf in French (*Huette*) expect then fickle and unconſtant weather, but moſt uſually rain.

124. *Peacocks* crying loud and ſhrill for their loſt *Jo*, does proclaim an approaching ſtorm.

125. *Sparrows* in the morning early chirping, and making more noiſe then ordinary they uſe to do, foretels rain or wind: The *Titmouſe*, cold, if crying Pincher.

126. *Doves* coming later home to their houſes then they are acuſtomed to do, preſages ſome evil weather neer approaching.

127. *Sea-mews*, early in the morning making a gaggling more then ordinary, foretokens ſtormy and bluſtering weather.

128. *Halcyon*, at the time of breeding, which is about 14. days before the Winter *Solſtice*, foreſhews a quiet and tranquil time, as it is obſerved about the coaſt of *Sicily*, from whence the Proverb is tranſported, the *Halcyon days*, *Pliny*.

129. *Bats*, or flying *Mice*, coming out of their holes quickly after *Sun* ſet, and ſporting themſelves in the open *Air*, premonſtrates fair and calm weather.

130. *Birds* in general, that do frequent trees and buſhes, if they do fly often out, and make quick returns, expect ſome bad weather to follow ſoon after.

131. *Bees* in fair weather, not wandring far from their hives, preſages the approach of ſome ſtormy weather.

132. *Waſps, Hornets,* and *Gnats,* biting more eagerly then they uſe to do, is a ſign of rainy weather.

133. *Flies* in the *Spring* or *Sommer* ſeaſon, if they grow buſier or blinder then at other times, or that they are obſerved to ſhroud themſelves in warm places, expect then quickly for to follow, either Hail, cold ſtorms of Rain, or very much wet weather; and if thoſe little creatures are noted early in *Autumn* to repair unto their Winter quarters, it preſages froſty mornings, cold ſtorms, with the approach of hoary *Winter.*

134. *Atomes,* or little *flies,* ſwarming together and ſporting themſelves in the *Sun* beams, is a good omen of fair weather: And ſo here I will end the predictions by ſenſitive creatures upon the Land, and turn to the Seas to behold the wonders of the deep.

By Fiſhes.

135. P*orpaiſes,* or *Sea-Hogs,* when obſerved to ſport, and chaſe one another about ſhips, expect then ſome ſtormy weather.

136. *Dolphines* in fair and calm weather perſuing one another, as one of their wateriſh paſtimes, foreſhews wind, and from that part whence they fetch their friſks; but if they play thus when the Seas are rough and troubled, it is a ſign of fair and calm weather to enſue.

137. *Cuttles* with their many legs ſwimming on the top of the water, and ſtriving to be above the waves, do preſage a ſtorm, offended with the

Meteor, and the diſturbed waters in the deep.

138. *Sea Urchins* thruſting themſelves into the mud, or ſtriving to cover their bodies with ſand, foreſhews a ſtorm; for the windy exhalations diſturb the loweſt waters firſt, in the bottome of the *Sea*, which makes the other fiſhes riſe and truſt in their ſwimming; and the *Urchin* unapt for that, and fearing to be hurried away with the tumultuous waves, gets neer the ſhoare, and there ſtays it ſelf by creeping into the earth.

139. *Cockles*, and moſt ſhell fiſh, are obſerved againſt a tempeſt to have gravil ſticking hard unto their ſhells, as a providence of *Nature* to ſtay or poiſe themſelves, and to help weigh them down, if raiſed from the bottome by the ſurges.

140. *Fiſhes* in general, both in ſalt and freſh waters, are obſerved to ſport moſt, and bite more eagerly againſt rain then at any other time, as agreeing beſt with their flegmatick conſtitutions; many other obſervations there be of theſe creatures, as concerning winds, tides, floods, and ſeaſons of the year, well known unto Fiſher-men, but not to me.

By Vegetables.

141. Trefoile, or Clavergraſſe, againſt ſtormy and tempeſtuous weather will ſeem rough and the leaves of it ſtare and riſe up, as if it were afraid of an aſſault.

142. *Tezils*, or Fullers Thiſtle, being gathered and hanged up in the houſe, where the *Air* may

come freely to it, upon the alteration of cold and windy weather will grow ſmoother, and againſt rain will cloſe up his prickles.

143. *Heliotropes* and *Marigolds*, do not only preſage ſtormy weather by cloſing or contracting together their leaves, but turn towards the *Sun's* rays all the day, and in the evening ſhut up ſhop.

144. *Pine apples* hanging up in the houſe where they freely may enjoy the *Air*, will cloſe themſelves againſt wet and cold weather, and open againſt hot and dry times.

145. The leaves of trees and plants in general, will ſhake and tremble againſt a tempeſt more then ordinary.

146. All tender buds, bloſſoms, and delicate flowers, againſt the incurſion of a ſtorm, do contract and withdraw themſelves within their husks and leaves, whereby each may preſerve it ſelf from the injury of the weather.

A Paraphraſe.

IN theſe vegetables there be certain ſtrings or nerves, which by the alteration of the outward *Air* (diſtilled into them like a thin fume) do diſplay or open their leaves, or contract them like convulſion fits, according to that thin vapours diſpoſition infuſed into their veins, being grateful or oppugnant to the natural temperature of the vegetables, &c. theſe vapours do make them ſmell more fragrantly, as forerunners of dew or rain, eſpecially all odoriferous flowers to whom ſuch dews are a comfort.

By

By Minerals.

147. METtals in general, againſt much wet or rainy weather, will ſeem to have a dew hang upon them, and be much apter to ſully or foul any thing that is rubbed with the mettal; as you may ſee in Pewter diſhes againſt rain, as if they did ſweat, leaving a ſmutch upon the table-cloaths; with this *Pliny* concludes as a ſign of tempeſts approaching.

148. *Stones* againſt rain will have a dew hang upon them; but the ſweating of ſtones is from ſeveral cauſes, and ſometimes are ſigns of much drought, and the reaſon from hence is derived; the inflamation of the *Air* over-heating the ſuperficies of the *Earth*, attracts vapours from below, whereby to cool it, according to the nature of all things that are dry, and one part ſtill ſupplies another, which makes our wells and fountains low, and tides high at or about *Michaelmas*, the Sommer paſt, the *Sun* having exhauſted ſo many vapours and exhalations from the treaſury of the *Earth*; the ſign of wet in Mettals, as is in ſtones, proceeds from the moiſtneſſe of the outward *Air*, turned into water by the coldneſſe of the Earth, Mettal or Stone, the *Air* being wateriſh, and apt unto it, and this it does moſt uſually preſage.

149. *Glaſſes* of all ſorts will have a dew upon them in moiſt weather: Glaſſe windows will alſo ſhew a froſt, by turning the *Air* that touches them into water, and then congealing of it; for the *Air* within the houſe being warmer then that without, is by oppoſition, and the coldneſſe of the

glaſſe between them, quickly converted from *Air* into water, and ſo to Ice within-ſide, the outward being predominant by an *Antiperiſtaſis.*

150. *Salt* extracted out of the Earth, Water, or any *Mineral*, hath theſe properties to foreſhew the weather; for if well kept, in fair weather it will be dry, and apt to diſſolve againſt wet into its proper *Element*; boards that it hath lain upon, and got into the pores of the wood, it will be dry in fair and ſerene weather, but when the *Air* inclines to wet, it will diſſolve; and that you ſhall ſee by the board venting his brackiſh tears; and Salt-ſellers will have a dew hang upon them; and thoſe made of mettal look dim againſt rainy weather.

But ſome here doe queſtion me for deſerting my former intended tract and method; as in placing Salt with Minerals, being imperfectly mixt, and compoſed of fire and water, oppugnant to their natural qualities; as if I intended for to delude men with words, or blind their ſights with caſting Salt into their eyes, or duſt raiſed with a whirl wind, againſt an approaching ſtorm: No, this was not my intention; but being this could not well ſtand with the firſt ſigns of the weather, it made me leane or incline to the *Chymick Philoſophers*, which make this a *Principle* both in *Vegetables* and *Minerals*; and my concluſion whereby to reliſh all the reſt (being general in all) according to the *Adage*, *Sal ſapit omnia.*

Natural ſigns of the four Seaſons.

ASTronomers do divide the year into four quarters or ſeaſons, with certain and prefixed times, the *Sun* entering four cardinal points, as was ſaid already in the *Worlds Epitomy*; others again do divide it into two parts, calling the one *Winter*, and the other *Sommer*; but *Nature* does ſeem to make four *Seaſons*, and thoſe neither beginning nor terminating at any ſtrict time, but according to the temperature and diſpoſition of the *Air*, leaſt her fruitful womb ſhould produce abortives, or want time for maturity; ſo to avoid theſe inconveniencies, *Nature*, like a carefull Mother, produces every plant, and all her fruits in due and fit ſeaſons; and leaſt ſenſitive creatures ſhould miſcarry, ſhe delivers them her dictates by inſtinct, or ſome inward motion: There are obſerved many ſigns in every Climate and particular Country, which in *England* are theſe, and the diſeaſes inherent and common in the 4. quarters.

Spring.

THis a comfortable and pleaſant quarter, every thing beginning for to ſpring and raiſe up their ſpirits from their roots, buried in the *Earth*, and ſiezed upon by the cold of Winter, as by the hand of Death: The firſt bird that brings us tidings of the approaching *Spring*, is the *Wagtail*, or Water-Swallow, whom ſome call the Barly-Bird, as obſerved a convenient time to ſow that ſeed, being a tender grain; next does appear the *Swallow*, but one will not make a Sommer, for when they come ſingle, and obſcure themſelves again, expect ſome cold and ſtormy weather; the *Woodcock* takes her leave, and departs the Land; next comes the *Nightingal*, making the nights pleaſant with her melodious harmony; and laſtly, the adulterous and ungrateful *Cuckow*; the plants and vegetables do ſhew the *Spring*, by adorning the fields with pleaſant and fragrant flowers; as witneſſe the oderiferous *Violet*, perfuming the *Air* with a grateful ſmell, and divers others.

Diſeaſes incident to this quarter, are, Leproſies, Tooth-ach, Feavers, Puſhes, Great and Small Pox, Falling-ſickneſſe, Ring-worms, Kings-evil, Wens, Squincies, and generally pains in the body and bones, proceeding from old fractures, bruiſes, and inveterate maladies.

Sommer.

THe days being long, and the *Sun* ſcorching hot; the Creatures of the Earth having reared and brought up their young progeny to perfection; the fruits grow now to maturity, ready to entertain them, and cheriſh their bodies, provided for the uſe of *Man*; *Ceres* injoying the fruits of her labours; the days all this ſeaſon declining, but affording many ſweet and pleaſant flowers in every Country, as *Clove-Gilliflowers*, *Roſes*, &c. Store of *Acorns* preſages a hard Winter to enſue.

The diſeaſes moſt frequent in this quarter, are; pains about the Breſt, Ribs, and Spleen, Puſhes, and diſeaſes of the face, Leproſies, ſore eyes, Pluriſies, pains of the ſtomach and belly; Peſtilence, Feavers, Apoſtumes, Jaundiſe, and divers maladies and infirmities proceeding of Melancholy.

Autumn.

THe *Wood-cock* comes in with this ſeaſon, and the *Swallow* departs, taking her young retinue. *Vindemiatrix* now provides us Wine againſt cold Winter, whereby to drown our cares and labours paſt, and refreſh us to begin anew; the ſap in moſt vegetables returns into their roots under ground, or more rational to humain capacities, the vegetable humor is contracted in their bodies with cold, and heat extenuates or dilates that infuſed ſpirit, which attracts (by vertue of the roots) a nutriment from the Earth, according to its natural faculty, which ſupply failing in his proper ſeaſon and time of year, the radical humor and ſap in the body contracting, their leaves muſt fall, and their glories fade, an emblem of mortality, and tranſitory beauty; the Earth growing white like declining age.

Diſeaſes that reign this quarter are many; as Agues, Aches in the bone, Pains in the back, dimneſſe of Sight, retention of Urine, Fluxes of blood, infirmities in the Face and Eyes, Cankers, Fiſtulaes, Emrods, Stone, Gravel, pains in the ſecret parts, and all ſuch diſeaſes as attend the

Spring; all evill and inveterate humors in the Spring and Fall do increaſe and flow, which were detained with the heat of Sommer, and cold of Winter.

Winter.

THe flocking of ſmall birds together foreſhews the approach of this *Seaſon*, with the coming over of Feltifers, and divers ſorts of other little birds; the days being at ſhorteſt, ſome things do flouriſh, as an herb called *Chriſt-worte*, for at the time of *Chriſtmas* it hath conſtantly flowers, if much froſt and ſnow hinders it not; the terminating of this ſeaſon is obſerved in *Ducks*, and divers other water-fowl.

The infirmities ſubject to man in this ſeaſon are moſt uſually theſe, *viz.* Red ſpots, Puſhes in the face, Fluxes of blood in the inferiour parts, Scabs, Leproſies, Toothach, pains in the Eyes, Palſies, Gouts, and all cold and phlegmatick diſeaſes; of theſe 4. *Seaſons* thus writeth *Ovid. lib.* 1. *de Rem. Amo.*

Poma dat Autumnus; formoſa eſt meſſibus Æſtas;
Ver præbet flores; igne levatur Hyems.

Signs preſaging good or bad Years.

1. AN overmoiſt Spring cauſeth weeds to abound, fruits to be ſcarce and not good; if dry and hot, grain will be good, but no great increaſe; if temperately hot, and moderately

moiſt it foreſhews a plentiful Sommer; but if over-hot and moiſt, a ſickly year will follow.

2. The *Broom* having plenty of bloſſoms, or the *Walnut-tree*, is a ſign of a fruitful year of Corn, for that temperature of the weather is grateful and nouriſhing unto them alike.

3. All Comets and great eclipſes, at the blooming of fruits, is held generally hurtful unto thoſe which it then happens to.

4. A dry Spring, with Northern winds, following a wet Winter, with many Southern winds, cauſeth often abortives, and weak children, *Gallen lib.3. Aphoriſm* 3.

5. Great ſtore of *Nuts* and *Almonds*, preſage a plentiful year of Corn, eſpecially *Filberds*.

6. When *Roſes* and *Violets* flouriſh in *Autumn*, it is an evill ſign of an inſuing Plague the year following, or ſome peſtiferous diſeaſe; for much heat in this Seaſon corrupteth the blood.

Winter over-moiſt and warm, is unſeaſonable for this Quarter, prejudicial to the husbandman, and a friend to the Phyſitian and Sexton, eſpecially if it be infected with many fogs, and great miſts, which cauſeth ſterility, and corrupteth the *Air*; but much froſt, with ſnow, preſages a wholeſome and plentiful year to follow.

Many other preſages I could have inſerted, both of the weather and ſeaſons of the year, but ſuch as would incumber the work, trouble the Reader, and perhaps ſuperfluous; as leaves in the wind, or down-floating upon the water, are ſighs of tempeſts; others again doubtful, and not to be credited; as in *Autumn* (ſome ſay) in the *Gall* or *Oak-apple*, one of theſe three things will be found, (if cut in pieces) a *Flie* denoting want; a *Worm* plenty; but if a *Spider*, mortality.

Others obſerve the twelve days of *Chriſtmas*, to foreſhew the weather in all the twelve ſucceeding moneths reſpectively.

Some again obſerve the 25. day of *January*, celebrated for the converſion of St. *Paul*; if fair and clear, plenty; if cloudy or miſty, much cattle will die; if rain or ſnow fall that day, it preſages a dearth; and if windy, wars, as old Wives do dream; and ſince I can find no better authority for theſe, nor any days preſages, as a thing indifferent, I will leave them, and perſiſt here no longer, but ſubſcribe the Verſes upon the ſame account.

If Saint Paul's *day be fair and clear,*
It does betide a happy year:
But if it chance to ſnow or rain
Then will be dear all kind of grain:
If clouds or miſts do dark the Skie,
Great ſtore of birds and beaſts ſhall die:
And if the winds do fly aloft,
Then wars ſhall vex that Kingdome oft.

A Concluſion with a Paraphraſe upon the preſages by ſenſitive Creatures in general.

Signs both of the weather, and the ſeaſons I have ſhewn you, yet have omitted many, but ſuch as are beſt known to thoſe who are ſenſible of them; and of theſe there be ſome who ſuppreſt with the heavy burden of many years, are forced to ſtoop and ſtrike ſail to *time*, their bodies almoſt worn out with old decrepit age, ſcarcely tenentable to the vital parts, which *Nature* can hardly inable for to keep poſſeſſion, being dayly in danger to be ejected by rigid Death, who admits no bail; ſuch as theſe are ſenſible of the *Airs* alteration; like an old ruined tenement, that lies open unto the aſſaults of every little ſtorm, and may unhappily know the weather and ſeaſons of the year.

Others there be in the glory and prime of their youth that do know all this, and more certainly then can the dictates of old age deliver it, having in every joynt a *Calender* that ſhews them the weather, with the Spring and Fall, as a *Memorandum* of their fond and licentious youth, wherein they have incurred the diſpleaſure of juſt *Heaven*, and rewarded with the fruits of ſin: Yet in this I do not cenſure all, for ſome knows it through the crimes of others, and many by caſualties, fractures of bones, bruiſes, old ſores, aches, cramps, gouts, corns of their feet, agues, and almoſt innumerable diſeaſes and imperfections of *Nature*, incident to frail man, for excepting ſuch like accidents,

dents,or ſigns derived from experience,or grounded upon ſome reaſon to be held weather-wiſe,is an argument of folly.

The cauſe why Ideots can ſo well fore-know the weathers alteration, is partly they being defective in their underſtandings (as wanting the uſe of reaſon) *Nature* does the more aſſiſt them; or they being cold and phlegmatick (as appears by their ſlavering) they are the more ſenſible of the *Airs* change, as it is agreeable or oppugnant to the temperature and conſtitution of their bodies; whereas *Man* endowed with the uſe of reaſon and diſcourſe, contemplates of the cauſe and nature of things, which ſo implies the ſenſes, that the *Air* infuſed into the poars of ſuch bodies, cannot have any powerful operation; and beſides, their conſtitutions are compoſed with a better concord of the 4 *Elements*, ſo that the *Airs* alteration cannot ſo ſoon and ſenſibly work thoſe effects in ſuch bodies, being perfectly in health, and reaſon of their counſel. For 'tis *Natures* care to provide beſt for thoſe things which are in moſt danger of ſhorteſt life,or can leaſt help or ſhift for themſelves; as to ſome ſhe gives ſtrength in arms, to others ſwiftneſſe of feet or wings, agility of body, and the like; ſome little creatures are made a prey by others, or their lives but ſhort; to theſe ſhe gives a fruitful offspring; as for example, what multitudes of little Birds, more then Eagles, or fowls of prey? Herrings in number exceeding Whales, with compariſon; behold alſo the providence of the immenſe *Creator*, that all theſe ſeveral kinds do ſubſiſt; and in ſuch Springs or Sommers whoſe temperatures of heat ſhall produce cold Winters;

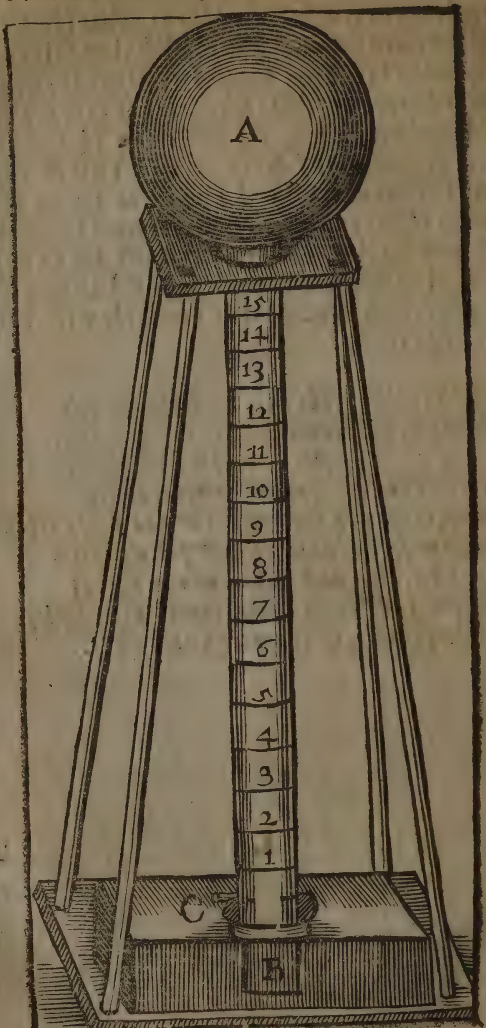
there *Nature* does commonly provide plenty before hand, as Akorns, Hipps, Hawes, and divers other ſorts of Berries, for the ſubſiſtance of ſundry ſorts of little birds & animals,that otherwiſe would have periſhed with cold, and for want of meat, which is armour of proof againſt the weather.

By *Natures* inſtinct from theſe, *Man* (as in a Calender) may read the weather, and the ſeaſons of the year, every body having ſmall poars, into which the *Air* does continually infuſe it ſelf; and as it is rarified or condenſed, it alters the diſpoſition of the body; but more or leſſe, according to the conſtitution, and as it is agreeable or oppugnant to the natural temperature thereof; as for an inſtance, Bees and Emmots being of a fiery nature, (as appears by their choler and induſtry) the *Air* infuſed into their little members, towards rain (being moiſt, and oppoſite to their natures) ſtupifies their ſenſes, and makes them heavy, and not apt to labour or go abroad.

This is the cauſe that Bees keep in their hives, or will not go far from thence, when the *Air* grows moiſt; and the weather inclining to rain; from hence is the motive that the laborious Emmots deſire reſt, and withdraw themſelves into the caverns of the earth, carrying their eggs with them, as by a natural inſtinct, whereby to preſerve their progeny; for by the fervour of the *Sun*, they muſt be diſcloſed, and by a ſtorm of rain they would be chill and periſh; the reaſon is generally the ſame in other ſenſitive creatures, whoſe corps are ſenſible of the *Airs* change, that alters them according to the natural temperature and diſpoſition of their bodies, ſome creatures requiring heat,others moiſture; what pleaſes one, diſtaſts ſome other,and ſo of all living things. *Salamanders* love Fire; *Birds Air*; *Fiſhes Water*; and *Beaſts Earth*: So theſe *Elements* (as they are mixt) and predominating, do offend or pleaſe the natural diſpoſition of the creature. This Monarchy and Common-wealth I chooſe as for an explanation of the reſt, they being the moſt induſtrious, the moſt ſenſible, and moſt ſubject for to be prejudiced by the incurſions or ſuddain aſſaults of the weather, and ſo here I will conclude with *Virgil*; *Geor. lib.* 1.

Haud equidem credo quia ſit divinitus illis
Ingenium, aut rerum fato prudentia major.
Verum, ubi tempeſtas & cœli mobilis humor
Mutavere vias, & Jupiter humidas auſtris
Denſat, erant quæ rara modo; & quæ denſa relaxant.
Vertuntur ſpecies animorum,& pectora motus
Nunc alios, alios dum nubila ventus agebat
Concipiunt: Hinc ille avium concentus in agris,
Et lætæ pecudes, & ovantes gutture corvi.

The Weather Glaſs, or perpetual Kalender.



BY this artificial means you may at any time, either in the day, or night, diſcover certainly the *Airs* alteration, as it does condenſe,or rarifie; and ſo from thence preſage the future weather: which the better, and the more ſenſible to effect, I will preſcribe a proportion for the *Glaß*; the manner how to devide it, and make a water that will not freez, much more beautiful and conſpicuous then ordinary water.

Firſt provide a Bolts head of a cleer tranſparent Glaſſe, in form as you ſee the figure; the end at *A*, like a Globe, in content to the whole $\frac{3}{4}$ or $\frac{4}{5}$: let the ſhanke be in circumference $\frac{1}{4}$ or $\frac{1}{5}$ of the head at *A*; then 1 $\frac{1}{2}$ or 1 $\frac{3}{4}$ of the *Globes* circle the length unto *B*, where muſt be a Glaſſe in content about half of the bolts head; as for a ceſtern to receive the water, which you may thus provide; if you would have a red water take *Vermilion*: a green colour is more pleaſant and viſible, which is thus made: take *Verdigreaſe*, and $\frac{1}{2}$ ſo much *Roman vitrial*, beaten ſmall, and put them into the beſt white *Wine vinegar*, the quantity as you ſhall ſee convenient, the colour,and bigneſſe of the ceſtern conſider'd; theſe being infus'd and ſturr'd together, let them ſtand 2 or 3 days until the water be coloured to your mind;if it proves too deep a green,pour in a little more *Vinegar* or ſtrong Water to it.

This being provided, take the circumference of the globe at *A*, (with $\frac{1}{4}$ part more or 4 diameters if you can) and place it on the ſhank with a ſtring equidiſtant from the head, as at the ceſtern, there make two marks, and divide that ſpace into what parts you pleaſe, 15 degrees or equal parts I conceive the beſt, 8 being the Arithmetical *medium* (if the ſhank be not taper'd) write the figures on paper, and paſt them upon the glaſſe in a continued Arithmetical Progreſſion, aſcending from 1 to 15: make a Frame that the glaſſe may ſtand faſt, and about the ceſtern a rock, or what you fancy beſt. This done, put the water into the Bolts head, and holding that in your hand, put it into the Frame and Ceſtern; then turn it ſuddenly the right way, and upon the bottome let it reſt awhile.

Obſerve at what figure the water ſtands (let it at the firſt be too high,) then raiſe up gently the long glaſſe, ſo that the water may fall down into the ceſtern, and try it for two or three days; and when it is at a place that fits the temperature of the *Air*, and Seaſon of the year, *viz.* 1, 2, or 3. if it be in the heat of Sommer; but at 13, 14, or 15. in the cold of Winter: if a little froſt (ſuch as we have in *September*) place it at 9, or 10: but if very temperate weather, as between hot and cold, the water muſt ſtand at 8 a *medium*; having tri'd and fitted it well according to the temperature of the outward *Air*,(for it muſt be kept from fire and accidental heat) cloſe it or lute it up at the neck of the ceſtern, leaving onely ſome cane for a vent (as you ſee at *C*:) whereby the *Air* may paſſe in or out of the ceſtern accordingly as the water doth riſe or fall; for the long glaſſe muſt always ſtand in the water, and almoſt touch the bottome of the receiver or lower veſſel, as at *B*; if the *Air* gets into the long glaſſe anywhere, (after it is placed according to the weather) the work is fruſtrated.

A

A PERPETUAL KALENDER, OR

Diurnal for the weather, with general and particular obſervations diligently ſelected, and compendiouſly inſerted, demonſtrating perſpicuouſly in a Glaſſe the Airs mutability and the weathers viciſſitude; with the preſent temper and Seaſon of the year, obſerving the water on ſerene days at theſe degrees.

1, 2, 3 *Shews the extreme heat of Sommer.*
4 & 5 *Is exceſſive hot and ſultry weather.*
6 & 7 *Is more hot than cold; a pleaſant ſeaſon.*
Viz. 8 *The* medium *betwixt Sommer & Winter.*
9 & 10 *More cold than hot, with gentle froſts.*
11 & 12 *Is exceſſive cold and froſty weather.*
13, 14, 15 *Shews the extreme cold of Winter.*

1. THe efficient cauſe why this water riſeth and falls, is from the condenſing or dilating of the outward Air, made viſible by a ſympathetical imitation of the parts here incloſ'd, upon any alteration of the weather, preſag'd from

hence by experience, obſerving that *Cold* and *Drought* do contract, *Heat* and *Moiſture* rarifies.

2 The ſudden falling of the water foreſhews an immediate approaching Storm of Thunder, Lightning, Rain, Hail or Snow.

3 If the water falls a degree in 6 hours, it will Rain within 12 hours after, if not miſty, cloſe, or ſultry weather for the Seaſon.

4 If the water fals much in the day, and riſeth but little in the night (yet the weather continuing fair) expect then exceſſive heat, if not Thunder and Lightning.

5 If the water falls never ſo little between Sun-ſetting, and his riſing next day, it will Rain or Snow before 12 the following night, if the *Meteor* converts not to what is worſe a *Calydonian Miſt*.

6 If the water falls not in the time of artificial day, it prognoſticates northerly winds, a cold night to enſue, or ſtorms of Hail at hand.

7 If the water keeps neer any degree a natural day, the weather will continue whether it be fair or foul; but if it riſes or falls a degree, and ſtands, the weather will quickly change to ſome exceſs.

8 If the water falls no more in the day then it did riſe in the night, it is a ſign that the Air is temperate, the heat of the day equally qualifying the coldneſſe of the night, or elſe it argues the weather to be at a doubtful ſtay.

9 The often riſing and falling of the water ſhews the outward Air very mutable, the temper various, and the weather unconſtant.

10 When the water riſeth not in the night-time, expect then Miſts, dark, foul and foggy

weather the next day, if not Thunder and Lightning in Sommer.

11 The water riſing any day in fair weather, preſages a froſt the following night, or cold windy weather for the Seaſon, if no immediate ſtorm of Hail invades the earth.

12 If the water riſeth in foul weather, whether it be day or night, it prognoſticates the ſtorm is nigh paſt, and fair weather will conſequently enſue.

13 The more that the water riſeth or falls at any time, the more violent will be the change of weather, and of longer continuance, whether fair or foul, hot or cold: as if it aſcends 2 degrees in the day or 3 in the night, or falls 2 in the night or 3 degrees in the day.

14 Obſerve at what figure or degree the water did riſe or fall when the weather chang'd, for the Airs temper will continue in the ſame ſtate until the water returns to that place again, excepting the extreams of Winter and Sommer.

15 So long as the water ſhall continue above 10 aſcending 'twill be froſt; if it falls below 9 'twill break, unleſſe it riſes within 12 hours after: if from above 12, it deſcends a degree or two and ſtands, expect then Snow, Sleet, cold or ſlabby weather.

If the *Bolts-head* be not prepar'd neer the dimenſions given, the water will riſe and fall, as the incloſed air contracts, or rarifies; but not in proportion to ſatisfie curious expectation, nor exactly ratifie all the 15 preſcribed obſervations: Beſides Countries, particular places, houſes and rooms, according to their ſituations, or accidental cauſes will change the Airs temper; all which with other circumſtances I refer to the ingenious, and my following Paraphraſe to their expoſition.

A Paraphraſe upon the Weather GLASSE,

NAture in all her works abhors a *Vacuum*, ſo that no *ſublunary* place can be empty or void, but is ſupplyed by one of the four *Elements*; from hence it is, that the *Air* in *Water-cranes* and pumps being ſucked out,the waters from profound ſprings are forced to riſe,contrary to their courſe and gravity; and as the *Air* is ſucked up;the Water aſcends, whereby to avoid a *Vacuum*, ſo repugnant to *Nature*; the reaſon is the ſame in this; for the outward *Air*, being condenſed with cold, that contained in the globe of the glaſſe, muſt alſo contract it ſelf, being a member or part of the whole *Element*; and ſo conſequently the water in the glaſſe muſt aſcend to avoid a *vacuum*, which it readily will doe, having a vent below to ſupply the defect of water in the lower veſſel.

This is the ſole cauſe, that glaſſes break in froſty weather, being cloſe ſtopp'd, and not full of liquor; for the *Air* contracting, and having no pores or paſſage, for a ſupply of more, the veſſel of neceſſity muſt crack: and by rarifaction the ſame may be effected, as common experience proves in glaſſe *Alembicks*, or other cloſe and concave veſſels, which are burſt by reſtraint of the rarified incloſed Air; and if theſe bodies could extend themſelves like bladders, the included air might be dilated unto an irruption at laſt, with a noyſe like *Meteors* ſwell'd to Tympanies in the wombs of pregnant clouds: from rarifaction of Air proceeds this experiment; Take a globe, or round glaſſe luted up cloſe, and having rarified the confined air by natural or artificial heat, you may throw the glaſſe againſt a ſtone, 'twill bound and not break by any violence that exceeds not the extenſion of the dilated impriſon'd air: And here in theſe ſmall things I have briefly prov'd how active this *Element* is in avoiding either exceſs or defect, ſuperfluity or a *vacuum*, and in an inſtant contracts or rarifies as *Nature* ſees apteſt or moſt facile to be effected, and thus avoids vacuity in all bodies; for if any place be empty, 'twill be found in ſome extravagant defendants, or in orbicular heads, enemies to order, emblemes of a *Chaos*, *Natures* abortives or falſe conceptions; but leſt this diſcourſe ſhould be ſo much dilated for to make ſome break into choller, I will return to the Weather glaſs (my former ſubject) not ſo fragile as they.

The falling of this incloſed Water is according to the natural property and courſe of all ponderous bodies, inclining towards the center and ſeat of gravity, if not hindred by ſome greater force, or natural affection to attract them; ſo this tends downwards accordingly as the incloſed Air can dilate it ſelf; for the *Element* rarifying (as againſt rain or hot weather) that contained above the water in the glaſs, muſt imitate it, in the ſame proportion; which appears by this; for to be $\frac{1}{5}$ or $\frac{1}{6}$ part more in the extreme heat of Sommer then in the greateſt cold of Winter; but not to be underſtood as general; for the extreams of heat and cold, in the Winter and Sommer-Seaſon in every year nor Country is alike, as regions under the Torrid *Zone*, admits of no froſt, and parts neer either Pole receives but little heat; ſome places enjoy a mean, and divers in exceſs, of both extreams: The diviſions of this glaſs are intended chiefly for *England*, or ſuch Countries as are neer this temperature of *Air*; yet they may be made for any other Climate; but the obſervations muſt not be in all points the ſame; for the former reaſon delivered.

The temper of your body you may try, by laying your hand upon the head of the glaſs; for the hotter you are, the more the water will fall; and take your hand off, the water will preſently riſe, recovering its former place or temper; and for a demonſtration let this ſuffice.

I have preſented to your view as in a glaſs both natural and artificial preſages of the weather: for all knowledge(meerly humane)is but as a ſhadow of *Science*, or a ſuperficial learning, reflecting upon mans imagination, as objects repreſented on a mirrour, and not ſubſtantially comprehending, the leaſt thing created: ſo expect not from me (the meaneſt of men) infallible predictions, but conjectures, and moſt of thoſe collected from the obſervations of others,bound up in this little Volume,and order'd in the beſt form I could deviſe:& as for better reaſons in theſe natural cauſes and effects of *Meteors*, I will refer them unto your *calm* and *ſerene cenſure*, for to paraphraſe upon, and explain the obſcure and hidden myſteries of

Natures ſecrets; and yet She not abſolute of her ſelf; but ſtrictly tyed to the precepts of the *Immenſe Creator*, to whoſe Sacred name be all *Honour*, *Praiſe*, and *Glory*; Theſe and all other being under the command of His *Omnipotent word*; And thus it is recorded in the *Regal Pſalmiſt, cap.* 148. 8. *Ignis, grando, nix, glacies; ſpiritus procellarum, quæ faciunt verbum ejus.*

* * *

AN

AN INTRODUCTION TO The Fourth PART.

Shewing
The direful effects of ſome prodigious Meteors, Epidemical diſeaſes, and Memorable accidents; with brief Hiſtorical obſervations, of their events, and final cauſes, as juſt motives to the love and fear of God.

Benevolent Reader,

THe formal and material cauſe of *Meteors*, I have compendiouſly delivered you already, according to my ability, ſelected from the ableſt *Aſtronomers* and *Philoſophers*; amongſt whom, I will not raſhly preſume to give a verdict in ſuch ſtupendious conceptions, but willingly do attend their Dictates, and Hypotheſes, which in many things do not concur: a common vice, in humane learning to vary; many men, having many minds, with opinions ſo oppugnant, as not to be reconcil'd.

cil'd: Some affirming *Comets* to be of a Celeſtial nature, other ſublunary, and extracted from the *Elements*; Some denie their motions to be equal about their center, but ſometimes high, and at other times low, according to the matter that feeds them, ſo moving up and down in the *Air*, like an *Ignis fatuus*; And thus by refractions deceive humane ſight, and fruſtrate theſe ſeeming demonſtrations: But leaving their ambiguous arguments, and dubious opinions of men (prone unto errour) ſince the matter and form of them is undoubtedly held natural, their effects portentious, and obſerved as the forerunners of great calamities, to be inflicted upon whole Kingdoms and parts of the habitable World. And thus the *Poet Silius. Lib.* 8.

——— Non unus crine coruſco
Regnorum everſor, rubuit lethale Cometes.

Pliny in his natural Hiſtory, makes a ſeries or catalogue of theſe fiery apparitions, which he divides into Ten kinds; but my intention (in this little treatiſe) is to comprehend them under the title of *Comets*, *Blazing-Stars*, or *fiery* Impreſſions in general: They are the hidden and ſecret myſteries of *Nature*, portentious in their heights, magnitudes, courſes and periods, various, and manifold in their colours and form, but are generally obſerved repreſentative lights and figures of Stars; and their effects (according to the opinion of Philoſophers) are to purge the *Air*, by conſuming thoſe Meteors whether exhaled, or ingendred in the Skies: But theſe combuſtions inflame that *Element* by which we draw our vital breath, and ſo begetteth Choler, and makes us prone unto diſſentions, and civil broiles; if the matter be extracted from the Earth it cauſeth ſterility, by conſuming the *Humidum radicale*; all this it does preſage and more, the iminent ſcourge of God, as the obſervations of Hiſtoriographers and Poets do abundantly teſtifie, and thus writeth *Manil.* a heathen,

Nunquam futilibus excanduit ignibus æther
Et nunquam Cœlo, ſpectatum impune Cometem.

And although ſuch prodigies do uſually proceed from natural cauſes, yet God, who is Omnipotent, did know from all eternity, the actions of the Worlds inhabitants, and their rebellious proceedings againſt His Sacred *Majeſty*; arming themſelves in vain with fortifications againſt juſt *Heaven*; and combining together with the aſſociations of evil Spirits, in League and Covenant with them; when the Immenſe *Creator* (if he pleaſes) can make, not onely the *Elements* to deſtroy mankind, but the very Atomes, or the moſt contemptible things, that ever were made for mans uſe, and thoſe to execute his commands; as witneſſe the *Egyptian* plagues, where *Nature* produced thoſe ſtupendious effects; and little deſpicable creatures, almoſt deſtroyed a mighty Kingdome; Yet theſe had forerunning ſignes, with mercy, to admoniſh *Pharaoh* and draw his people to repentance. And thus ſpeaks *Eſdræ* 2. *cap.* 9. *Et dediſti ſigna atq; portenta in Pharaone, & in univerſis ſervis ejus, in omni populo terræ illius.*

The State of *Rome* at the death of *Julius Ceſar* was menaced with a dreadful *Blazing Star*, preſaging the effuſion of much blood, which quickly after did enſue, for theſe *Meteors* do beget choler, and from thence fury, rage and madneſſe, the Parents of commotions, uſhring in Sword, Plague, or Famine. Of this writes *Virg. lib.* 1. *Geor.*

Non alias Cœlo ceciderunt plura ſereno
Fulgura, nec diri, toties arſere Cometæ.

The effects of *Comets*, or fiery impreſſions in the *Air*, are not univerſally ſeen to all Countries, nor yet oftentimes to all places within thoſe regions; nor are their influencies obnoxious, to all men where they be viſible, yet motives unto every particular man to repent. Although there hath been no calamity yet in the World ſo general, but God out of his Mercy hath preſerved many: and in acknowledging of his goodneſſe, thus it is recorded in the Sacred *Records Joſhuæ, cap.*24. *v.*17. *Fecitq; videntibus nobis ſigna ingentia, & cuſtodivi nos in omni via, per quam ambulavimus.*

Comets do declare the greatneſſe of the *Creator*, and are as admonitions from Him, who like a Father and a merciful Judge, infinite in his Love, as in his Juſtice, giving us theſe ſigns as warnings, like an indulgent Parent who ſhews us the rod before the Sentence be pronounced; the continuance of their direful effects are as the reſt in diſpute, but by ſome obſerved thus: That for ſo many natural days, as any Blazing Star or fiery Meteor ſhall continue, ſo long will their ſad effects endure, in ſucceeding years, anſwering the number of thoſe days; this is but a meer conjectural opinion, derived rather from the annotations of doubtful Experience, then grounded upon any humane reaſon: But whether this be true, or that theſe dreadful and ſtupendious Meteors be the cauſe of theſe woful enſuing events, I dare not ſubſcribe my weak opinion; but this I will confidently affirm that they are evident Demonſtrations of an Omnipotent *Diety*, and motives to make the proudeſt Creature ſtrike Sail, to amaze the wiſeſt and terrifie the moſt valiant. *Eccleſ.* 3. 14, *Omnia opera ſua fecerit Deus, ut timeatur.*

The unuſual tumults, or diſorder of the *Elements*, preſages the wrath of God connexed with His Mercy, by his ſtupendious works, to draw us unto *Him*; if not for Love, yet for fear of puniſhment: For if the Elements of *Fire* and *Air* do rage, whither ſhall we run to ſave our ſelves? upon the Seas we ſhall ſuffer wrack by the ſtorm, or periſh in the tumultuous waves; if the *Earth* does prove unſtable, where ſhall we ſet our feet? houſes nor caves cannot defend us, when the baſes of Rocks and Mountains ſhake, and the whole *Globe* of Earth ſhall tremble; whither ſhall we fly? who can ſecure us? Here I find comfort and hopes of ſafety with St. *Auguſtine*, *In te Domine ſperavi, non confundar in æternum.* And *Pſal.* 121. *ver.* 2. *Auxilium meum à Domino qui fecit cœlum & terram.*

Blazing Stars; though unuſualy forerunners of ſorrow, yet oftentimes commixt with joy; of which there be many examples; one is recorded at the death of *Nero*, the Emperour, a Tyrant, a Parricide, a Murderer of *Chriſtians*, and a profeſſed enemy to Mankind; and at laſt (contrary to the perpetual eſtabliſh'd Laws of *Nature*) kill'd himſelf.

ſelf. A little before his death, there appeared a fiery Comet, whoſe event in his fall was happy; This homicide raiſed the firſt perſecution, in the Primitive *Church*, and put to death St. *Peter*, and St. *Paul*, *Apoſtles*; as you may read in St. *Chryſoſtom*, and in *Lactantius*, *l.*4. *c.*21. *de vera Sapientia.*

God hath given us Signs in the *Heavens*, both of His wrath and mercy; of which I have ſhewn you here ſome precedents, and do intend to manifeſt it with a few more examples; but conclude the Introduction here with this; The *Rain-bow* which we often ſee, is from a natural cauſe, as the Comets fiery impreſſions and all Meteors are ſuppos'd to be; yet the proclamations of the *Creator*, and their ſignifications oftentimes beyond the knowledge or reach of humane reaſon: the *Rain-bow* given to *Noah* was a Sign of *Peace. Gen.cap.*9. *ver.*13. *Arcum meum ponam in nubibus cœli: & erit Signum fœderis inter me, & inter terram.*

* * *

THE FOURTH PART.

Shewing
The opinions of ſome Men concerning Blazing Stars, with a compendious Hiſtorical obſervation of their events; with divers other prodigies epitomiz'd.

ALl *Comets* or fiery impreſſions, are generally obſerved ſwifteſt at the firſt, and their influences of greateſt force, having then moſt matter, and peradventure more violent and obnoxious, when newly inflam'd; But all this is oppugned by *Scaliger*, who conceives no *Comet* for to conſiſt of a fiery nature, but a crude and undigeſted vapour, illuminated by the *Planets* or fixed *Stars*, as are thoſe Meteors, commonly called falling Stars, which are like gellies not enflam'd, but tranſparent, and apt to receive light; and theſe Meteors being illuminated by the Celeſtial orbs, do repreſent (as in a mirrour) their figures or apparent forms of the Stars or *Sun*, which apparitions, are common in the Northern Climates, although held portentions to us; And ſuch as do continue long, where the material cauſe is great, and the rays of the *Sun*, wanting force to diſſipate them; As for an inſtance; in the year of *Grace*, 1596. the *Hollanders* ſayling by *Nova Zembla*, to ſearch for a *N. E.* paſſage into *China* and the *Eaſt Indies*, there did appear for 17 continued days the perfect effigies of the *Sun* after the 17. of *October*; when as the true *Sun* was depreſſed; the Horizon of that place, being in the latitude of 77 degrees; The like you may read in Captain *James* ſearching for the *N. W.* paſſage into the South *Sea*. This laſt diſcovery was attempted without ſucceſs, in the Raign of *Charls* the firſt of *England*.

Some would ſeem to demonſtrate this, by a round glaſs, like a globe; which fill'd with water, and ſuſpended in a dark room, where placing a candle under it, and then t'will repreſent the form thereof, upon the ſealing: or place the light above, and ſome water underneath it; Or in a room made very dark, cauſe an augure hole to be bored through into the open air, and ſo, as that the *Sun* may ſhine in, or upon it: Take a globe glaſs fill'd with fair water, and hold it at the hole, thus perforated; and within the room (by reflection of this) you ſhall ſee many rays, repreſenting the form of a Blazing Star, or fiery impreſſion; and this ſome thinks to be a ſufficient demonſtration, that Comets are but illuminated parts of the darkned Air, or condenſed parts of the enlightned Spheres.

Rothmannus conceives that Comets are really enflamed Meteors, and that they are moved by *Angels*, as for a terrour unto mortals; but as for this ſuppoſition: *God* does commonly uſe, and employ natural means, unto natural cauſes; but yet an Omnipotent *Creator*, not confined to one, nor the other. *Galilæus* doth ſuppoſe theſe Comets for to conſiſt of a Celeſtial nature, and generated in the Spheres, but dilated as are the clouds. *Lodovicus Molina* in his 5. diſputation of the Worlds Creation, would ſeem to gather from thence, and out of *Geneſis*, that the *Heavens*, both in *Species* and Matter, do agree with ſublunary things; and *Thomas Fiennus* inclines to this, as by his writings, concerning the Comet which appeared in the year of *Chriſt*, 1618: whereby he urges, that there may be matter in the *Heavens* both to generate and corrupt, and that there is daily permutations in the Spheres, although not viſible to our weak ſights: and this his erroneous opinion, ſeems ſomething to be confirmed by divers apparitions of new Stars, that have been made viſible in ſundry *Ages*, ſince the *Creation*; as they inſtance (who incline to him) in the Conſtellation called the *Pleiades*, accounted but 6 Stars, before the *Trojan* Wars; and ſince, as now commonly known by the name of the ſeven Stars: This ſome Hiſtoriographers do teſtifie; and likewiſe *Homer*, *Pliny*; and thus *Ovid*, *lib.* 4. *Faſt.* derived from a falſe conception of the ſight;

Pleiades incipient humeros revelare paternos :
Quæ ſeptem dici, ſex tamen eſſe ſolent.

After many and great conjunctions of the Planets, Comets and fiery impreſſions are often ſeen; which moveth ſome to ſuppoſe them to be the cauſe in raiſing the exhalation, which produceth the Meteor; and according to the Matter, it riſeth the higher; and by the vertue of the fixed Stars, it may be drawn up above the Planets, even to the Firmament; But if this were granted, it muſt require an extraordinary time to elevate the Matter to that height; when as a ſtone let fall from the Firmament, and ſuppoſed continually to deſcend 100 miles an hour, this ſtone could not fall to the ground in 70 years; And as for theſe Comets, which are ſublunary, if they be enlightned by the *Sun*, they would at ſome time happen of neceſſity to be eclipſed, moving within the conical ſhadow of the Terreſtrial globe; if their motions be cauſed, or attracted by any one Star or conſtellation, they could not have contrary motions to them, as we have ſaid already in the ſecond part of this Book; nor could theſe *Meteors* change their places ſo much, nor be ſo violently ſwift, as they are obſerved: Some moving parallel with the Horizon, and others in the *Azimuths*, rather then deſcribing parallels with the *Æquator*, which the Stars doe: Some fiery *Meteors* have ſeem'd fixt, and many ſo rapide in their ſtupendious accelerated motions, that they cannot be attracted by the Stars nor Planets: As the Comet in the year of *Grace*, 1618. did paſſe from one Tropick to another; that is, from ♑ to ♋ in the ſpace of 10 natural days, which the ☽ that is the loweſt Planet cannot perform in leſſe then 13 days, 15½ hours and ſomething more; But lets return to the final cauſe, and fatal events of ſtupendious Meteors delivered by reverend *Antiquity*.

A:ston from
& ye firmament

of

Of fiery Impreſſions.

SOzomenus writes of a Blazing Star, as it were ſuſpended in the *Air*, with one end extending almoſt down unto the Earth; this was viſible over the City of *Conſtantinople.* Some again have been ſeen to fall from the *Heavens*; of theſe *Scaliger* affirms one in his time that did deſcend: From the falling of the fiery Meteors, is derived (as ſome conceives) the poetical fiction of *Phaeton*; but *Tertullian* otherwiſe; Of theſe fiery precipitated impreſſions thus writeth *Claudian. lib.*

Præceps ſanguineo delabitur igne Cometes
Prodigiale rubus ——————

Pliny lib. 2. *cap.* 35. writeth how *Licinius Syllanus* did ſee a ſparkle falling from the Heavens, and in its deſcent to encreaſe unto the bigneſſe of the *Moon*; and this Meteor again drawn up, appeared like a lamp or burning torch.

About the year of *Grace*, 1450, being 3 years before the barbarous *Turks* invaded *Urope*, and took the famous City of *Conſtantinople*, there appear'd a fiery impreſſion, repreſenting the form of a two-hand Sword, which paſſing under the *Moon* (then at full) obſcur'd her light; about this time divers Countries under the *Patriark* of *Greece* were miſerably infected with the moſt diabolical hereſie, againſt the incomprehenſible and Sacred Myſtery of the ever bleſſed *Trinity*; which errour (ſoon after) put a period to that

Empire, and brought all thoſe Countries into a miſerable captivity, and their ſervile necks to the yoke of a heatheniſh Tyrant.

Many dreadful apparitions in the *Air*, are recorded in the Books of *Machabees*, *lib*. 2. *cap*. 5. how for 40 days there was ſeen over the City *Jeruſalem*, horſe-men running in the Air, having golden robes, with ſpears (like armed bands) charging one another in order and manner of a fight, as hand to hand; motions of bucklers, multitudes of glittering helmets, drawn ſwords, throwing of darts, ſplendor of golden armes, and coats of Maile; This ſhewed the forerunning miſeries of the *Jews*, perſevering in their diſobedience to *God*, and neglecting his juſt Precepts, until left unto the pleaſure of the inſulting foe. *Antiochus* giving Commiſſion to his Souldiers to ſlay whomſoever they ſhould meet, ſparing neither Men, Women, nor Children; where there was killed in three days ſpace the number of 80000: 40000 put in bands, and ſold; Beſides this, they committed ſacriledge, and violently took away the veſſels and ornaments of the *Temple*, with their profane and polluted hands; and left governours there more barbarous then himſelf. There were alſo ſtrange portentious apparitions in the Air (before the Deſtruction of this City of *Titus Veſpatian*) as a fiery ſword hanging over *Jeruſalem*, the ſpace of a whole year, with many other prodigious viſions; of which you may read in *Joſephus*.

There happened in the Iſle of *Britain* many portentious ſigns, preſaging the effuſion of much bloud, and menacing the ſubverſion of the whole

Iſland; all which quickly after came to paſs by their own inteſtine wars, and the invaſion made by *Julius Ceſar*, who ſubdued it to the State of *Rome*, the people ſubjugated to the Tyranny of the enſuing Emperours. As for the forerunning ſigns of calamities this Iſland groaned under, there were ſeen in the *Air*, globes of fire, and dreadfull ſcreaks and noiſes heard to the aſtoniſhment of the people.

Anno 1558. began deformed reformation, whoſe infatuated doctrine, was attended with a prodigious and fatal Comet, hanging over their heads, as a meſſenger of *God's* wrath; In theſe times there fell out of the Air ſuch multitudes of ſtrange and monſtruous proportion'd flies, that for many miles in *Germany*, they deſtroyed the corn in the fields, and all vegetables, until with want they died; the corruption of whoſe bodies infected the Air, and ſo begot an Epidemical diſeaſe, in teſtimony of the proteſtation made.

In the year of *Chriſt*, 1588. it is reported by *Snellius*, how that at *Amſterdam* (a little before *Sun*-ſetting) there was beheld in the Air the form of a Seafight, which continued the ſpace of an hour, where the conquered were ſeen to flie: this was little before the *Spaniards* proud *Armado* came inſulting into our narrow Seas, who preſuming of their ſtrength to captive *England*, were by the bleſſing of *God*, fruſtrated of their deſign, and put to flight, being ſevered with a puffe of wind, and many thrown upon our coaſt, with ſhipwrackt fortunes, craving mercy of us, whom they preſum'd to conquer, under the diſguiſe of *Religion*, when it was to enlarge their Dominions, by enthralling us; An Embleme of humane greatneſs, and how imbecile it is; a ſtory paralleld by *Xerxes*, both in their pride and ſucceſſe.

Of theſe portentions, apparitions, and direful forewarnings of *God's* juſt wrath againſt the ſinful World, there be many fearful examples, over-long to be rehearſed in this Treatiſe; ſo that all of this kind I will here forbear, and conclude with thoſe immediately following the death of *Julius Ceſar Dictator*, murdered by the *Senators* in the Senate houſe: at which time there appeared a Blazing Star, with divers other prodigious ſigns of enſuing woe, and effuſion of bloud, which preſently after followed; For ſeven nights after his death, there was heard hideous howling of Dogs and Wolves neer their great Towns, fatal Birds ſcreaking in their Cities; Beaſts did ſpeak, the Images in their Temples did ſweat, Mount *Ætna* brake forth with dreadful globes of fire, where ſtones were melted, the Earth gap'd, Rivers ſtood ſtill, the *Alpes* trembled, armed bands appear'd in the Air, Trumpets were heard to ſound, the *Sun* pale and wan, and almoſt obſcured for a year following; and of *Ceſar's* ſlaughter thus writeth *Ovid. Metam. Lib.* 15.

Arma ferunt inter nigras crepitantia nubes
Terribileſq; tubas, auditaq; cornua cœlo
Præmonuiſſe nefas: Solis quoque triſtis imago
Lurida ſolicitis præbebat lumina terris.

Of this writeth *Virgil. Geor. Lib.* 1. and alſo *Tibullus, lib.* 2. *Ele.* 5.

Of

Of Parelii, Lunary Rain-bows, and ſome ſtupendious Eclipſes of the Luminaries; alſo light nights and dark days.

Before the bloudy conflict between *Ceſar* and *Pompey* in the fields of *Pharſælia*, where blind *Fortune* was arbitrator, which of theſe two fond ambitious Men ſhould rule the ſubingated World; at that time there appeared 3 *Suns*, or 2 *Parelii*, as if declaring the greatneſſe and glory of theſe two Potentates, who were but as falſe lights, for they both ſoon vaniſh'd.

In the year of *Grace*, 1525, there appeared 6 *Suns* or 5 *Parelii*, all viſible at one time, *Gem. Phri. Lib.* 1. *cap.* 8. and quickly after this, was *Francis* King of *France*, overthrown in Battail, and of a great Prince made a captive by the *Spaniards*; about this time alſo, many falſe Prophets did ariſe.

Pliny Lib. 2. in his natural Hiſtory writes of 3 *Suns*, or 2 *Parelii* that were ſeen in *Boſphorus*, but neither regiſters the age, nor records the event; He mentions alſo 3 when *Lu. Plaucus*, and *Marc. Lepidus* were Conſuls, and when *Claudius Ceſar* was Conſul, and when *C. Domitius*, and *Ca. Fannius* were Conſuls, there appeared at one time 3 *Moons*; he affirms alſo, ſome nights ſo light, as that they were not (but in reſpect of time) eaſily diſtinguiſhed from the day; but what followed, he relates not: But this happned about the Nativity of our *Lord* and *Saviour*, who was the light of the World, and did diſperſe the clouds of errour and idolatry, which had a long time infatuated the *Heathens*, in their benighted underſtandings, and now to be illuminated with the *Truth*; and this recorded to be ſeen not only in *Judæa* but in *Spain*, and other places of *Europe*.

Ariſtotle lib. 3. *cap.* 2. *Mete.* writeth of two *Rain-bows*, made by the rays of the *Moon* in the night ſeaſon, theſe were ſeen in his days. *Thimon* writes of two *Rain-bows* ſeen in the night, and both in the ſpace of 3 years.

Albertus records one in his time, the *Moon* not at full in the Sgn of ♑ the *Sun* in ♉, ready for to enter ♊ the time of year being about the middle of *April*; the ☽ in the South, and the Rain-bow in the North part of the hemiſphere. *Americus* who gave the Weſt Indies its name, writes of one Rain-bow which he did ſee in the north part of the Horizon, about midnight, but very pale.

Gemma Phri. lib. 2. *cap.* 2. *Coſmo.* writes of one that was ſeen the 12. of *March* about midnight, the *Air* clear and temperate; this *Rain-bow*, was deſcribed with perfect colours, as thoſe that we ſee in the day; And *Daniel Sennertus* a famous Phyſitian of *Wittenberg* reports of one *Rain-bow* which himſelf did behold (about Midſommer-time in the year of *Chriſt*, 1599, immediately after a direful Tempeſt of Thunder and Rain; this Rain-bow appeared very beautiful between the North and Eaſt part of the Horizon, by which it ſhould ſeem 'twas after 12 at night.

Snellius lib. de Cometa, 1618 writes, how that in the year of our *Lord God*, 1617, and in the month of *December*, the *Moon* neer the full, there did appear a *Rain-bow* in the night, and upon the 30 day of *December* following (going towards the *Hague*) he did ſee another continuing from 5 to 6 in the evening; theſe were a little before the beginning of the *Palatinate* wars, fatal unto *Germany* and hurtful to all *Chriſtendome*.

Divers portentious Eclipſes, both of *Sun* and *Moon*, have happened according to the courſe of *Nature*, although prodigious: and Egyptian darkneſs too hath benighted us, continuing 3 or 4 days, as *John Stow* in his Annals teſtifieth, and that ſome days in *Holland* were not diſtinguiſhed from the nights; and divers men (in the time of artificial day) did miſcarry (by reaſon of darkneſs) having loſt their ways, miſtook their Inns, and ſo fell into their graves, ſhortning their voyages to their journeys end. And *Sleidanus* records the like of this in *Germany* in the year of *Chriſt*, 1547, in the moneth of *April*, when the *Sun* was obſcured to their Horizon for four continued days; theſe were as Emblems (in both places) of their rebellion againſt *Heaven* and *Earth*, which are the ways of the Divel; For he that follows *Chriſt*, walks not in darkneſſe. The *Romans* were alſo thus benighted when the Prince of obſcurity was adored by them: which *Virgil* does apply to the death of *Julius Ceſar*, and the civil wars, *Lib.* 1. *Geor.*

Sol tibi ſigna dabit; ſolem quis dicere falſum
Audeat? ille etiam cæcos inſtare tumultus
Sæpe monet, fraudemq; & operta tumeſcere bella:
Ille etiam extincto miſeratus Cæſare Romam
Cum caput obſcurâ nitidum ferrugine texit,
Impiaq; æternum timuerunt ſæcula noctem.

Portentious Stormes of Rain.

BEfore the Nativity of our *Lord* and *Saviour* 766, in the Raign of *Rivallus* (a Britiſh King) for three days ſpace it rained bloud, out of which corruption, there enſued multitudes of venemous Flies, which killed many men, and bred a mortality, with deſolation almoſt unto the whole Iſland; This is collected from the Britiſh antiquities.

A little before the death of *Nero* the Tyrant and Emperour of *Rome*, it rained bloud with many other prodigies, as you may read in *Livy*.

In the year ſince the Sacred *Virgin* was a Mother 1534, about the Feaſt celebrated for the Reſurrection of the *Son* of *God*, it rained bloud in *Germany*; which falling upon Mens garments, did deſcribe the form of red Croſſes, to put us in mind (peradventure) of His cruel Paſſion, a Sacrifice for the whole World. In the Low Countries (neer about this time) the skins of men and women were ſigned in this manner, in a ſhower of bloud.

In the year of our *Redeemer* 1571, at a place called *Emden* in *Friſia*, there fell in the night time a great ſhower of bloud, which diſcoloured the earth, and all it fell upon, for the ſpace of 5 or 6 miles in compaſſe; and in ſuch plenty, that divers cups were fill'd the next day with it; about theſe times, began cruel and bloudy wars by the Sacramentarians. In the year 1601 the like of theſe prodigies began and continued the ſpace of

3 years, and then was ſeconded with a woeful plague.

Marcus Varro affirms, how it rained Frogs in ſeveral parts, and in divers Towns of *Gallia*. *Cardanus* reports *Anno Domini* 1510, how that in *Lombardy* it rained hard Stones of a ſulphurious taſte, in colour like to ruſty Iron; one Stone (that fell in this Storm) was preſented to the King of *France*. *Avicenna* affirms how that in *Perſia* it rained Iron; In the time of *Auguſtus Ceſar* it rained Silver, as *Dion* teſtifieth. In *Armenia* there fell from the Clouds red Snow, as if it had received a tincture of Vermilion; And beſides theſe (as it is recorded) there hath fallen from the Skies, Fleſh, Milk, Corn, Wool, and divers other prodigies, over long to be rehearſed, becauſe they are doubtful, and [illegible] affirmed by *Pliny*, *Livy*, and divers other well approved Authors; yet they upon report of others have inſcribed many Errours, ſo I will paſſe them over, and proceed.

Of Deluges and portentious irruptions and courſes of the Waters.

Beſides many wonderful flouds in particular Countries, there be three held ſtupendious above the reſt; the General *Deluge* in the time of *Noah*, in the year from the Creation of the Stars 1656, this was 15 Cubits above the higheſt hills; in this Deluge all the World periſhed, but what was with *Noah* in his *Arke*, as you may read in *Gen. cap.* 6, *cap.* 7, and *cap.* 8.

The ſecond great inundation, is accounted that of *Achaia*, in which floud, that Province was ſubmerg'd; This Deluge was 540 years after that of *Noah*; and by Computiſts affirmed, to be about the 90 year of *Jacob* the *Patriark*.

Deucalion's was the third, in the Country of *Theſſalia*, about 100 years after the building of *Rome*; this *Deucalion* was ſon to *Prometheus* Prince of *Greece*, who in a Boat, ſaved himſelf, and his Family from the fury of the floud, on mount *Parnaſſus*; this is that Deluge which *Ovid* mentions in his *Metam. Lib.* 1. which ſwallow'd up the *Atlantike*, and divers other parts, and great Territories in *Europe*; Yet it is a general received opinion, that he had peruſed the old *Teſtament*, by relating, how the World in time to come ſhould be deſtroyed with Fire, as in theſe Verſes;

Eſſe quoque in fatis, reminiſcitur affore tempus
Quo mare, quo tellus, correptaq; regia cœli
Ardeat & Mundi moles operoſa laboret.

In the laſt year of *Nero Ceſar*'s raign, new Rivers did ſpring out of the Earth, and others did alter their courſes and former channels, as it is recorded by *Pliny*, *lib.* 2. *cap.* 103: and about that time ſome Rivers were obſerved to run backward, as if they would have returned (contrary to courſe) into the Earths bowels again; or to ſhew the prepoſterous courſes of the Tyrant, that ript open his Mothers womb, to ſee from whence he came.

Conimbricenſis, Tract. 11. *cap.* 8. *Mete.* writeth, how that in the raign of *Emanuel*, King of *Luſitania*, the waters in the River *Tagus*, did part themſelves, running with two ſtreams on either ſide, and the middle of the Channel void of water.

Nilus the famous River of *Egypt*, and wonder of the World, upon the *Coſmical* riſing of the *Dog-Star* does overflow the fruitful valleys, enriching the ſoyl, and ſo producing an annual crop: yet ſome years theſe floods have proved extraordinary; as you may read in *Pliny*, *lib.* 5. *cap.* 9. the greateſt flood that ever was obſerved there, is recorded to be 15 cubits high, in the time of *Claudian* the Emperour; the leaſt that ever was known, is reported to be a little before the bloudy and fatal field of *Pharſalia*, between *Pompey* the great, and *Ceſar* the Conquerour.

In the year of Mans Redemption 1521, the Rivers of *Rhine* and *Maze*, with ſome others of leſſer note, both in *Germany*, and the Low Countrys by the extraordinary Tides, and ſwelling of the Seas, forced theſe Rivers to overflow their banks; which inundation overwhelmed 72 villages, in which periſhed above 100,000 people, with inumerable multitudes of Cattel of ſeveral kinds: this I find recorded by Mr. *John Stow*, in his Annuals of *Henry* the 8.

Many ſtrange and portentious births have been produced in all ages, not onely to the terrour of Man, but to the aſtoniſhment even of *Nature*; and theſe with many other ſtupendious prodigies for brevity ſake I let paſs, and will conclude with thoſe recorded of the *Romans*, more furious and bloudy then the worſt of civil wars, and thus *Virg. lib.* 1. *Geor.*

Vox quoque per lucos, vulgo exaudita ſilentes
Ingens: & ſimulacra modis pallentia miris

Viſa ſub obſcurum noctis, pecudeſq; locutæ
(Infandum) ſiſtunt amnes, terræq; dehiſcunt.

Of Earth-quakes and their wonderfull effects.

THe moving of a Coach or Cart will make houſes ſenſibly to ſhake and tremble, according to the motion or Weight of the Carriages; & more eſpecially in towns where there are many vaults or Cellers, and the ſtreets paved in one *continuum* with the building: For the preſſure or violence upon one ſtone (the pavements being connext) muſt continue to ſome end or *dividuum*, that the Air may vent it ſelf; The poarineſſe of the Earth, and volubility of the *Air*, is made by this apparent.

In a ſtill Evening, place upon the ground a Drum; to which lay your ear, and you ſhall plainly hear the Air beating upon the Drum, repreſenting the motion by which t'was made, whether it be Men or Carriages; and this may be perceived at two or three Miles diſtance, eſpecially where the Number is great, or the Motion violent, upon open Plains, or barren heaths moſt of all; for the ground being poary in ſuch places, where the ſoyl is dry, and hath aſcents, with hollow hills; Theſe ſounds will not be ſo plainly heard at a diſtance over arrable lands, as it will upon any heath; becauſe the turffe is as the Skin to the Earth, reſtraining the ſubtile Air from evapourating forth, and by reaſon of the concavity, it contains the more, and gives the freer paſſage.

Herodotus writes how *Egypt* was once Sea: *Seneca lib. 6. cap.* 21. does record how the Iſle *Theraſia* did riſe out of the *Egæn* ſea, the Mariners beholding it,&the like of *Thia* in the days of *Pliny*,and now a firm Iſland, one of the *Sporades*. And in the year of *Grace* 1538, in the fields of *Puteoli*, there was a new mountain did riſe neer a mile high, from the foot of the hill; Mountains and lower grounds have been removed from their places, where *Nature* hath fixed them; as you may read in *Pliny, lib.* 2. *cap.* 83. how two mountains did remove, and run together with a terrible noyſe, as if aſſaulting or contending with one another; In the laſt year of *Nero Ceſar*, the meadows, and Olive gardens of *Vectius Marcellus* were removed over a common high-way, and contrary in their motions, mutually changing their ſeats and ſituations: And in the moneth of April *An. Domini* 1586, the like happned in *Ireland*, where the ground was removed with the trees, and all the lower plants growing upon it; This ſhews the *Omnipotent Creator*, as we read in *Job: cap.* 9. *ver.* 6. *Qui commovet terram de loco ſuo, & columnæ ejus, concutiuntur.*

The Cities of *Hellice* and *Buris* were buried with an Earth-quake, and nothing remaining of them, but the bare name onely: And if *Plato* may be believed, *Aeon* in the Atlantick, was equal unto *Aſia*, and now all deep under water, the Sea retaining yet the name; and it is very probable that many Countries thus have ſuffered, whoſe foundations have been ſhaken with Earth-quakes, and ſo ſubjected to the inſulting waves; For if the terreſtrial globe had been thus divided in the days of *Noah*, how could *America*, and divers remote Iſlands from any continent have been planted, as now they are, whoſe originals the Natives knows not?

But ſome do object to this; that *America* might be planted by the North or South parts of the World: Firſt it is doubtful, whether *Greenland* be part of that continent, or no; beſides it is unlikely they ſhould ſeek for a plantation through ſo cold & unhoſpitable a Countrey, that can afford no relief, nor any thing but hunger and cold. Others do better conjecture the firſt Colonies might paſs by the ſtraigths of *Magellane*, and thither out of *Aſia* by *Java*, or into new *Guinea*; but admit it were ſo; it is not probable they carried ſavage Beaſts, or venemous Serpents with them to a Plantation; but for that beaſts might grow wild with running in Deſart places at their liberties, and ſerpents breed out of the ſlime of the Earth; as Eeles and other living and ſenſitive Animals, produced from corruption, and yet afterwards engender and beget others of their form; But it is generally conceived there hath been many more Lands then there be at this preſent, and divers Iſlands by which at firſt they paſſed and now devoured by the Seas; and ſuppoſed by ſome, that this Britiſh Iſle hath been ſevered from *France*; *Spain* from *Africa*; *Sicily* from *Italy*; and *Oſſa* from *Olympia*.

Some do inferr, how that *God* promiſed *Noah* not to drown the World any more, and that He had put bounds to the waters, which they ſhould not paſſe; 'Tis true, but yet part of it may be ſubmerged, of which I could inſtance you many precedents, as *Rye*, and other places in *England* under the Seas irrecoverable; their Steeples viſible at a low water within this hundred years, and thoſe now quite ſwallowed up with the yawning waves; For where theſe bounds are which *God* hath placed, 'tis known to *Him*, and and not to us, nor need we care if we ſerve the *Omnipotent Creator*. *Propterea non timebimus dum turbabitur terra, & transferentur montes, in cor maris, Pſal. 45. ver. 2.*

Before the Nativity of our *Sacred Redeemer Jeſus Chriſt*, 374. *Brennus* a potent Prince, whoſe territories being over-peopled, raiſed a puiſſant Army, to gain renown, and ſeek new plantations; in which deſign, he was aſſiſted by the then over-populous *Gauls*, through whoſe Country he marched into *Greece* with 300,000 Men, as ſome writes: on mount *Parnaſſus* ſtood the City of *Delphos*, *famous* in thoſe days of darkneſs, for the Temple of *Apollo*, whom thoſe Idolatrous people worſhipped, whoſe dubious reſponſes had drawn from all Nations a great concourſe of people, by which means, it was made the richeſt place of all *Greece*, and by Nature fortified; the taking of this City was the ſole ambition of *Brennus*; partly by reaſon of the wealth, and partly it being the chief City, which being ſubdued, all the other Provinces would eaſily ſubmit unto his power; So this Prince, with his multitudes of men, Storm'd the City with Fire and Sword; at which time, part of the Mountain fell down with an Earthquake, and overwhelmed multitudes of his moſt valiant and forward men: this calamity was ſeconded by a violent tempeſt of Thunder, Lightning and Hail, which deſtroyed a great part of thoſe that had eſcaped the former; *Brennus* ſore hurt, and in deſpair of future good, with his ſword ſlew himſelf, as it is recorded by *Juſtine*. This ſtory I have related to ſhew the judgement of God upon him for his covetouſneſſe and pride; not done as againſt the worſhippers of the Divel, but as in contempt of a Deity. *Proper. lib.3.*

Torrida ſacriligum teſtantur limina Brennum
Dum petit intonſi Pythia regna Dei.

Three years before the Birth of the Worlds *Redeemer*, when *Herod* was King of the *Jews*, there happened an Earth-quake in *Judea*, by which there priſhed of Men, Women and Children, to the number of 30000. precurſor of the maſſacre and number of Infants, as ſome records do teſtifie.

In the 15. year of our *Lord* and *Saviour*, and in the beginning of *Tiberius* his Empire, there were 12. Cities in *Aſia* in one night overwhelmed with the inhabitants; and which is more, all ſwallowed up in the bowels of the Earth. In the 18. year of this Empire, the *Son* of *God* (as a ſacrifice for the World) was accuſed by the perfidious *Jews*, condemned by *Pontius Pilate* (then Preſedent of *Judea*, under *Tiberius Cæſar*) and crucified, at whoſe paſſion the World did tremble with an Earthquake, and the greateſt that ever was, or, as it is thought, ever ſhall be untill His coming again to judge the quick and the dead; but ſome ſay this was miraculous, and not univerſal; theſe are the words of *Didymus*; *Mei Chriſti tempore, non priva-*

tus aliquis terræ motus, ſed tota terra conquaſſata, & centro convulſa fuit.

In the year of grace, 1117. there was in *Lombardy* an Earth-quake, which continued 40. days, in which time it overthrew many buildings; but the greateſt wonder was, it removed one Town from its ſeat, and ſet it in another place, a good diſtance from the former ſituation, with many of the houſes ſtanding; this ſtory you may read in *Floriacenſis*: theſe are evident demonſtrations of an Omnipotent power. *Job, cap. 9. ver. 5. Qui tranſtulit montes, & neſcierunt hi, quos ſubvertit, in furore ſuo.*

In the year of grace, 1509. the City of *Conſtantinople* was ſhaken with an Earth-quake, in whoſe ruines there was overwhelmed 13000 Men, Women, and Chridren. In the year 1531, the City of *Lixborn* trembled with an Earth-quake, which ruined 1500. dwelling houſes. *Fromondus, lib.4. Meteo.* does affirm how that in the year 1570. *Ferraria* was miſerably ſhaken with an Earthquake, which had continued in *Italy* the ſpace of two years, as ſome Authors do write: and in the year following, being 1571, the Turks preſuming of their ſtrength, and the diviſions of *Europe* (by reaſon of the Sects and Schiſms) raiſed a mighty Army, intending to invade *Europe* both by Sea and Land, for which deſign a fleet was rigged: And for the prevention of this general calamiy, it pleaſed God to unite all the Chriſtian Princes (as againſt the common enemy) who provided another, and put to Sea; and upon the 6. day of *October* the Chriſtians gave the Turks battail, which Sea fight continued that day and the next, and then the Antichriſtians fled, and many of them did run their Gallies a ground, whereby to ſave their lives: The Chriſtians in this Sea-fight ſunck, and took 230 Gallies, and ſlew 30,000 *Mahumetans*, and multitudes were taken priſoners, who with the prizes and ſpoils, were divided amongſt the contibutors, according to their adventures; In this fight 12000 *Chriſtians* were redeemed from the Turkiſh ſlavery; The *Chriſtian* Princes loſt in this fight 8 gallies, and 8000 Souldiers; This was called the famous Battail of *Lepanto.*

In the year 1601. there was a general Earthquake through *Europe*, which made it all to tremble, but not the people, nor yet ſo much as moved them to repentance for their tranſgreſſions againſt *Heaven.*

In the year of the Worlds Redemption 1638. *March* the 27. *S. N.* between 3 and 4 in the afternoon, the Kingdome of *Naples* was violently ſhaken with an Earth-quake, which ſubverted houſes and Caſtles; the City of *Necoſia* ſtanding by the Sea ſide, was made an Iſland, and five miles divided from the Continent; the Earth ſinking, *Nature* brought in the waters, to fill the lower grounds and cover her entrails: there periſhed in this Earth-quake of men, women & children (ſo neer as could be gathered) the number of 40,000. this was a forerunner of implacable tumults and commotions of the people, beſides the bloudy Tragedies acted there betwixt the Kings of *Spain* and *France.*

Many prodigies I have here omitted, as partly fearing to be prolix: ſome again I have found but not their ſad events, and others I have let paſſe, as from doubtful Authors; as the Earthquake and Tempeſt at the taking of *Conſtantinople* by *Mahumet* the great from *Conſtantine* the laſt Chriſtian Emperour of *Greece*; in ſtorming this City, there happned a direful Tempeſt of Thunder and Lightning, and an Earth-quake that killed 3000 Men, Women and Children, and ruined 800 houſes; but Authors do not well agree in this, nor yet of the time; When it was taken, one ſaith *Anno Domini* 1452, *May* the 27. which was Whitſunday Eve; *Knolls* writes 1453, *May* the 29. which was the *Tueſday* after *Trinity* Sunday that year; But all agrees the City was quite depopulated, putting all to the Sword, but what were reſerved for *Mahumet*'s pleaſure; and thoſe led away into a miſerable captivity; the Tyrant intending this for his Antichriſtian ſeat, called in the Jews to inhabit it. Here you may ſee *Heavens* juſt revenge againſt a ſtubborn people, perverſly maintaining that diabolical Hereſy againſt the Sacred and ever bleſſed *Trinity*; at which time & *Feaſt* the Empire had a fatal period, and the *Grecians* delivered into the hands of the moſt barbarous enemy; Theſe fatal Meteors are great motives to humble Man, to make him repent his iniquities, and ſoberly remember the moſt dreadful day of *Judgement*, of which theſe prodigies are forerunning ſignes, according to *Iſaia cap.* 24. *ver.* 1. *Ecce Dominus diſſipabit terram, & nudabit eam, & affliget faciem ejus, & diſperget habitatores ejus.*

Plagues and Epidemical Diſeaſes.

EArth-quakes are often forerunners of *Plague* and *Famine* (*Heavens* direful revenge and juſt runiſhments) proceeding from exceſſe or defect, and preſag'd ſometimes from ſubterranean vapours, reſtrained in the Earth, and by rarifaction being grown over great to be contained, they do make violent irruptions, and ſo by infecting the *Air* (in which we breath) they do breed peſtiferous diſeaſes: but theſe exhalations are generally held moſt infectious to beaſts; For their heads being prone towards the Earth and neer it, they do draw in with their breath thoſe crude exhalations into their bodies, much more then Man, who ſtands erect: but beaſts being genepally infected with the viciated *Air*, and their bloud contaminated, the eating of thir fleſh breeds contagious Deſeaſes in Man; and in ſuch times, the greedy *Graſier* ſends thoſe to the ſlaughter which he thinks to be infected, fearing they ſhould die in his hands, and keeps the ſoundeſt ſtill for ſtore; Of theſe general calamities I could inſtance many; but fearing leſt I ſhould weary you with reading (as I am with writing) I will briefly relate theſe.

Before the Nativity of *Jeſus Chriſt* (the Worlds Redeemer) 180. there happned a Plague in *Africa*, that ſwept away 30000 Romane Souldiers, and of the Natives 1080,000, which depopulated not onely many Towns and Cities, but ſome whole Provinces.

In the year of *Chriſt* 171. *Antoninus* Emperour of *Rome*, it pleaſed *God* to viſit the World with a Plague, which made whole Countrys like a Charnel houſe; This general Peſtilence began at *Babylon*, but ſpread its infection over a great part of *Europe*.

In the year of *Grace* 254. there happned an Epidemical diſeaſe that raged violently, and continued in ſeveral Countries the ſpace of 15 years, all which time the *Church* of *God* was perſecuted by the Pagan and Tyrannical Emperours, poſſeſed with infernal ſpirits; in *Rome* at theſe times it rained bloud, where this Plague continued three years, while the living in the City were not able to bury the dead.

From the Sacred *Virgin*'s being a Mother 316. *Maxentius* in the Eaſtern Countries, raiſed a terrible Perſecution, putting all *Chriſtians* to death that he could find, and with ſeverall kinds of tortures to force them from their allegiance and ſervice to the *Son* of *God*: This perſecution conſtrained many to fly their Countries; and divers for fear of *Maxentius* and his unhumane competitours, obſcured themſelves in Caves of beaſts in the Deſarts, where from ſavage Creatures they found more mercy then from Man; But this *Chriſt* reveng'd, perſecuting the Tyrants with Plague and Famine, which ſo conſumed many Countrys, that they were deſtitute almoſt of Men, Women or Children, until the Emperour had nothing but beaſts to rule over, and not many of them neither.

From the Birth of our *Lord* and *Saviour* 1346. there happned in that year three great conjunctions of the higher Planets, *viz.* ♄ ♃ and ♂, and theſe three all in ☌ in ♒; this year produced one of the moſt univerſal and deſtructive Plagues that ever was inflicted upon wretched mortals; this peſtiferous infection took the original in the Eaſt Indies, and paſt over the world, no people ſafe either by Land or Sea, the Air being generally contaminated as with a deadly poyſon; many that year went to Sea, hoping by that means to avoid it, but in vain, for there they were ſurpriſed with their whole families: this Epidemical diſeaſe was ſo dreadful, that it baniſhed all humanity, and perverted man from being a ſociable creature: Friends forſaking their Friends and Alies; Parents unnaturally forſook their Children, and ungrateful Children their Parents: This general diſeaſe continued 9. years in ſeveral Countreys, and was as mortiferous and raging as ever was Plague in any Countrey.

Some writers affirm how that this Plague began from fiery Exhalations riſen out of the Earth, whoſe malignancy infected the Air, and from thoſe diſtempers begot raging Feavers in Men, untill the ſword made inciſion of their inflamed veins, a remedy worſe then the diſeaſe. Others ſay this Plague took its ſad Exordium from fire that fell from Heaven: the moſt authentick *Chronologers* record it thus; *Lamech*, a City of *Arabia*, now known by the name of *Mecha*, the *Metropolitan* of the *Antichriſtian Mahumetans* ſuperſtition; in this City it rained Bloud and Snakes the ſpace of three days and nights together; the Serpents ſoon after periſhed in ſuch multitudes, that the ſtench of their corrupted bodies contaminated the Air in all the adjacent

Regions; this ſtupendious ſtorm raz'd *Mahumets* Temple to the ground, and ſever'd into many pieces the Sepulchre of that infernal Impoſtor: The next year the Earth denyed her accuſtomed fruits, introducing a Famine more mortiferous then the former; theſe direful calamities not moving man to repentance, (O incredulous and obdurate hearts!) but contemning thoſe dreadful judgements, were pleaſed with their enemies fall, until they fell themſelves; Piety expulſed, fled into exile, while envy and confuſion in Arms, put the world in an uproar, the ſword licenſed in the hands of *Furies*, making a rude decimation of thoſe who had eſcaped both Plague and Famine.

Theſe three laſt deplorable afflictions, were the moſt univerſal and deſtructive that the world ever felt, or the Inhabitants groaned under ſince the general Deluge, when in 40. days all living ſouls were deſtroyed from off the face of the Earth, but what the Ark was fraighted withal, whereby to replant the world again; and thoſe for many months were wafted over the angry waves, that lav'd the Earth polluted with enormous crimes, and tranſgreſſions of unbelieving licentious men, only under the Law of Nature, to which brute Beaſts ſubject themſelves. This Ark repreſented the figure of Baptiſm, 1 *Pet*.3.20,21. And moreover St. *Hierome* calls it a Type of the Catholike Church; the raging ſtorms and tumultuous billows (in oppoſition to one another) reſemble *Hereſies.* and *Perſecutions*; the Ark out-lived the fury of the Deluge, and ſo ſhall the other to the worlds conſummation; all periſhed that were not in the firſt, ſo I need ſay no more of the laſt.

Hiſtoriographers conjecture that more Men, Women, and Children periſhed in one of theſe Epidemical diſeaſes, then in the univerſal Flood; the World being conceived more populous then in the days of *Noah*, and the continuance much longer; many will not believe theſe (being but humane traditions) and 'tis not ſtrange, ſince they want faith in divine Records; whereof ſome object that if the Deluge were 15. cubits above the higheſt Hills, the ſuperficies of the Waters (on which the Ark floated) was ſwell'd up to the middle Region of the Air, in which no living creature can ſubſiſt; beſides, they make queries from whence ſhould theſe magazins of Waters be extracted? the Fountains of the Earth they conceive not ſufficient; the Clouds are but thin dilated vapours; the Waters mentioned above the Firmament could not deſcend ſo low in 100. years, without a miracle.

To their objections, I might anſwer, 'twas the providence of God which preſerved them, to whom nothing is impoſſible, being ſole Creator and Moderator of the Univerſe; but ſince an Omnipotent and divine power condeſcended to make Mans preſervation by a humane means, humane reaſons may be expected, for which I refer the over curious unto the learned *Expoſitors* of *Geneſis*; yet not to leave them in a Sea at laſt, ſomething I will ſay, not poſitively affirmed, but conjecturally intimated only.

As for their Suppoſitions, the whole Element of Air is held naturally hot and moiſt, and the middle Region cold but by accident, which frigid and reſtringent cauſe being chang'd, the quality muſt ceaſe, and ſo the Air (in general) might convert to vapours innumerable; and the waters in the Earth (peradventure) were dilated, and ſo made more fluxible, whoſe Fountains were opened for 40. continued days, the Cataracts deſcending from their overburthned clouds; which time (to humane apprehenſion) might encreaſe the inundation to ſubmerge the terreſtrial Globe 15. Cubits above the higheſt hills, whereof 'tis probable the *Armenian* mountains were moſt exalted above the Earths center; and as the clouds were exonerated by the waters that fell, 'tis like this inferiour Air did aſcend, and aſſume the middle Regions Sphere, and ſo made apt for all living creatures to breath in.

The Deluge ebbing, Mount *Ararat* appear'd, on whoſe firm foundation the Ark reſted; the Waters by an orderly ſummons retreated, ſome to repleniſh the Earths entrails and exhauſted veins; others confin'd to channels of ſpacious Rivers, ample Lakes, and Oceans almoſt unterminated; a great part (by the influence of Stars) might be ſublim'd, and reconverted to vapours, thence rarifying to Air, aſcend their proper Orbs again, the groſſer parts ſink to their ſeats of gravity, and ſo will I, this being above my Sphere; yet pleaſed in recollecting my preſervation paſt, the hope of one in future, tranſports my mind beyond a Deluge, the landing Eternity.

A Compendium of Meteors, and Signs obſerved in former Ages, as at this preſent, moſt prodigious in Nature, ſtupendious to Mortals, and portentious in their diſmal events.

THe *Symptomes* of *Natures* diſtempers I have rendered in a Chronological breviate, with their direful effects, and ſad events in general; and as for others more particularly reflecting on *England*, I refer the Reader to my Hiſtory of *Meteors*, when it ſhall be produc'd to the publique view. In this Epitomy I have recorded ſome prodigies, and what ſucceeded them; yet not preſuming to preſage what is to come (although I have a *Solomon* for it: *Eccleſ. c.* 1. *v.* 8, and 9) that being reſerved in the *Creator's* preſcience only, and I no Expoſitor; Yet generally when the *Elements* ſeem diſtracted from their common courſe, moſt do conceive they are Admonitions to us of anger, and precurſing ſigns of puniſhment, if not remitted by repentance; and before the *Sword* (the worſt of miſchiefs) is licens'd in the hands of rude and mercileſs men, theſe and ſuch like are Alarums to the voluptuous Children of the World lull'd into a *Lethargy* by ſin, charm'd by *Oblivion*, Auditors to *Vice*, and deaf to *Vertue*.

Behold! malignant *Planets* in the loweſt Houſe conjoin, preſuming to affront the *Sun* their Prince, while *Night* uſurps the Throne of *Day*, illuminated by intervals with Lightning, or by ſome dreadful *Comet*; the drops diſtili'd from Cloudsconvert to bloud, the *Earth* denies her accuſtomed fruits,grows ſterile, or diſabled through the diſcord of the other *Elements* to nouriſh them into maturity; from hence corruption and Famine introduces Epidemical diſeaſes, the *Ar* infected for want of motion becomes offenſive, not cool nor fit to breath in, and on a ſudden the giddy *Winds* burſt forth in *Hericanoes* from their obſtruſe Caves, hurrying all things down that hinder their bluſtering motions, until oppos'd with eddie Winds, they turn all things *topſie turvie*! the *Waters* in united ſtreams ſtand ſtill, or divide themſelves; and at other times they ſeem to ſcorn the Confines of their Channels, but in imitation of the Seas ſwell above their Banks, as if ambitious to enlarge their Dominions! The *Earth* grows unſtable, and ſhaking as with an Ague, or labouring with ſome prodigious birth, or from a *Dropſie* relapſes into a burning *Feaver*! Behold the backs of angry Clouds, as if beſtri'd by Furies hurried along by irrefrenary Tempeſts! ſometimes menacing the *World* as with a Deluge, at other times belching forth flames of Fire, proclaiming combuſtions with impetuous Thunder! and many times, ſulphureous Meteors dilated within the obſtruſe Caverns of the *Earth*, ſeem to beleagre *Nature*, and by ſpringing of Mines, blow her up from the Center! the aſpiring heads of Rocks, by concuſſion of Meteors have been levell'd with their feet, Bulwarks of ſtone, ramm'd up with Mountains (made againſt the proud ſurges of the Seas) have met, and others thrown down, ſunk into valleys, permitting the tumultuous billows to enter their breaches, and ſo invade the Land; at which diſorders *Nature* ſeems frighted, and in an Agony miſcarries, producing monſtrous and abortive births.

Theſe and all ſuch prodigies are to humble the *Mighty*, and make the proud and ſtiff-neck'd *Atheiſts* ſuppreſſe their thoughts, abaſe their exalted minds, bend their irreligious knees, and ſtoop to adore a *Deity*, beholding the *Elements* in an uprore mutiny, and *Nature* their *Miſtreſſe* and *Idæa* fall'n into an Extaſie, as if in a conflict betwixt *Life* and *Death*, or diſenabled to rule the ſubjugated Empire of the *World*: the *Princes* and *Potentates* of the Earth ſee themſelves impotent men; the ſulphurious *Ingeniers* cannot be defended with their Baſaliſcoes and Granadoes, but frighted run to their Mines (intended for the Throne of *Horror*) to ſhroud their fearful heads from the face of incenſed *Heaven*, acknowledging their fiery inventions but Squibs and Childiſh pot-guns. Theſe *Meteors*, though the meaneſt of the *Almighties* works, be pleaſed to accept them from the meaneſt of his Servants, who truly wiſhes your preſcience of *Meteors*, and preſervation from the fury and diſtemper of the *Elements*, recommending you and all to the Sacred Protection of *Heaven*, remembring; *Protector in te ſperantium Deus, ſine quo nihil eſt validum, nihil ſanctum.*

A
CONCLUSION
TO
This Book of Meteors.

I*mpartial Judges*, and ingenious *Jury*, unto whoſe candid Verdict I ſubmit, hoping my faults are not capital, my Accuſers not conſiderable, nor my Sentence rigid; As for the eſcapes of the Pen and Preſſe, they ſtand in this Sheet corrected as for a Pennance, yet expect a pardon by courſe of Law (if my Judges be Civilians) or at leaſt a Reprieve for another *Seſſions*, and in the interim licens'd to go upon their *Paroles*, until exchang'd for better; Yet aſperge not theſe ſheets with the errors as if adulterated by me, but let them eſcape your cenſures as they have done the Corrector, ſince I had no Reviſe nor Proof but by accident; my aboad remote from the Printer, who is the leſſe culpable, the Copy being much interlin'd, and the Corrector not converſant in the Subject, whoſe faults (I hope) tranſcend not the Readers humanity, wiſhing they would behold them as the *Optick Science* demonſtrates contraction of objects through concave Glaſſes; and if your clemency can extend its ſelf to annihilate a few interpoſed faults, I need not doubt your condeſcention to grant me an Indulgence, ſtorm'd with injuries,rifled by pretended friends, falſe in their words, perfidious in their truſts; theſe reflecting ſometimes upon my weaker cogitations , repreſent temporal objects that divert my mind which ſhould direct my pen: Yet I am contented (upon ſecond and more ſerious conſiderations) ſince 'tis the permiſſive will of *God*, who can raiſe me if he pleaſes above the aſſaults of *Fortune*, or reach of malicious mortals, and gratiouſly hath plac'd me above the degrees of *Contempt*, though underneath the loweſt Sphere of *Envy* : I wiſh thoſe that want belief, were bound to make me reparations. If what hath been truly and poſitively affirm'd, be not a ſufficient *Plea* (for miſtakes) nor yet the Printer's Table of Errors ſatisfactory, let thoſe reflect, examine and peruſe their own, to which (while they live) they never ſhall ſubſcribe.

FINIS.

Manuſcripts prepar'd for the Preſs.

Inprimis, The *Scales* of *Commerce* and *trade* : *Geometry* demonſtrated both by Lines and Numbers; from thence *Aſtronomy*, *Coſmography* and *Navigation*, prov'd and delineated by the doctrine of Plain and Spherical Triangles, mention'd in my printed Books of *Arithmetick*. The *Engliſh Annalls* from the invaſion made by *Julius Cæſar*, continued to theſe times. *Hiſtorical preſcriptions*, *Eccleſiaſtical* and *Moral*. *Speculum annorum*, or an *Ephemeris* for 19 years to come, ready to be publiſh'd by the Author *Thomas Willsford*.

The faults eſcap't are thus corrected.

INtro. *Page* 2. *line* 18. *dele* they ; *p.* 5. *l.* 6. *dele* ſo ; *p.* 9. *l.* 15. *read* miles ; *p.* 10. *l.* 32. the *r. theſe* ; *p.* 17. *l.* 17. *r.* counterpoyſing ; *p.* 18. *l.* 21. *r.* nor conducing ; *p.* 26. *l.* 14 *r.* with the ☉ ; *p.* 30. *l.* 21. *r.* 28 days ; *p.* 33. *l.* 20. *r.* 1 H. 35 *m.* *p.* 40 *l.* 29. *r.* 1572. & *l.* 32. *r.* a Mother ; *p.* 43. *l.* 1. *r.* Alpes ; *p.* 48. *l.* 26. doth *r.* do ; *p.* 49. *l.* 3. *r.* repelled to ; *p.* 53. *l.* 28. *dele* he ; *p.* 55. *l.* 9. *r.* not going far to ſeek, & *l.* 25. *r.* did abrogate or alter ; *p.* 57. *l.* 9. *r.* it is ; *p.* 51. *l.* 31. as *r.* thus ; *p.* 60. *l.* 10. *r.* and they ; *p.* 58. *l.* 14. garment *r.* garland, & *l.* 32. reflection *r* reflect on ; *p.* 71. *l.* 22. *r.* & riſing from low ; *p.* 73. *l.* 11. *r.* Elements ; *p.* 75. *l.* 19. 18 *r.* 28 ; *p.* 82. *l.* 29. *r.* warm at any time ; *p* 88. *l.* 15. *r.* ſtupifies ; *p.* 99. *l.* 7. *r.* from ♃ ; *p.* 104. *l.* 5. ♄ *r* ♈, & *l.* 16. Sommer *r.* Autumn ; *p.* 110. *l.* 3. *r.* levity ; *p.* 112. *l.* 26. *r.* forced ; *p.* 113. *l* 27. is *r.* are, & *l.* 31. *r.* diſſipates ; *p.* 114. *l.* 14. warm, *r.* wan ; *p.* 126. *l.* 20. *r.* levity ; *p.* 136. *l.* 7. in, *r.* to ; *p.* 139. *l.* 20. to, *r.* in ; *p.* 140. *l.* 22. *r.* This is ; *p.* 147. *l.* 31. *r.* without compariſon ; *p.* 149. *l.* 16. *r.* humidus ; *p.* 164. *l.* 28. *r.* uſually ; *p.* 171. *l.* 28. *r.* by Titus ; *p.* 172. *l.* 20. *r.* proteſtation ; *p.* 180. *l.* 30. *r.* Romans inteſtine tumults predicted, *p.* 185. *l.* 23. this *r.* his ; *p.* 189. *l.* 4. *r.* puniſhments

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